

## SEQUENCE LISTING

<110> LEE, NANCY M  
CHEN, LING C

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<170> PatentIn Ver. 2.1

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Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln
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Met Lys Leu Leu Thr Gly Leu Val Phe Cys Ser Leu Val Leu Gly Val			
1	5	10	15
agc agc cga agc ttc ttt tcg ttc ctt ggc gag gct ttt gat ggg gct			96
Ser Ser Arg Ser Phe Phe Ser Phe Leu Gly Glu Ala Phe Asp Gly Ala			
	20	25	30
cgg gac atg tgg aga gcc tac tct gac atg aga gaa gcc aat tac atc			144
Arg Asp Met Trp Arg Ala Tyr Ser Asp Met Arg Glu Ala Asn Tyr Ile			
	35	40	45
ggc tca gac aaa tac ttc cat gct cgg ggg aac tat gat gct gcc aaa			192
Gly Ser Asp Lys Tyr Phe His Ala Arg Gly Asn Tyr Asp Ala Ala Lys			
	50	55	60
agg gga cct ggg ggt gtc tgg gct gca gaa gcg atc agc gat gcc aga			240
Arg Gly Pro Gly Gly Val Trp Ala Ala Glu Ala Ile Ser Asp Ala Arg			
	65	70	75
gag aat atc cag aga ttc ttt ggc cat ggt gcg gag gac tcg ctg gct			288
Glu Asn Ile Gln Arg Phe Phe Gly His Gly Ala Glu Asp Ser Leu Ala			
	85	90	95

```

gat cag gct gcc aat gaa tgg ggc agg agt ggc aaa gac ccc aat cac 336
Asp Gln Ala Ala Asn Glu Trp Gly Arg Ser Gly Lys Asp Pro Asn His
      100                      105                      110

```

```

ttc cga cct gct ggc ctg cct gag aaa tac tga 369
Phe Arg Pro Ala Gly Leu Pro Glu Lys Tyr
      115                      120

```

```

<210> 6
<211> 3939
<212> DNA
<213> Homo sapiens

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<220>
<221> CDS
<222> (106)..(1767)

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gccgggggcgc ccactccgca gcagccagcg agccagctgc cccgt atg acc gcg ccg 117
                                     Met Thr Ala Pro
                                     1

```

```

ggc gcc gcc ggg cgc tgc cct ccc acg aca tgg ctg ggc tcc ctg ctg 165
Gly Ala Ala Gly Arg Cys Pro Pro Thr Thr Trp Leu Gly Ser Leu Leu
      5                      10                      15                      20

```

```

ttg ttg gtc tgt ctc ctg gcg agc agg agt atc acc gag gag gtg tcg 213
Leu Leu Val Cys Leu Leu Ala Ser Arg Ser Ile Thr Glu Glu Val Ser
      25                      30                      35

```

```

gag tac tgt agc cac atg att ggg agt gga cac ctg cag tct ctg cag 261
Glu Tyr Cys Ser His Met Ile Gly Ser Gly His Leu Gln Ser Leu Gln
      40                      45                      50

```

```

cgg ctg att gac agt cag atg gag acc tcg tgc caa att aca ttt gag 309
Arg Leu Ile Asp Ser Gln Met Glu Thr Ser Cys Gln Ile Thr Phe Glu
      55                      60                      65

```

```

ttt gta gac cag gaa cag ttg aaa gat cca gtg tgc tac ctt aag aag 357
Phe Val Asp Gln Glu Gln Leu Lys Asp Pro Val Cys Tyr Leu Lys Lys
      70                      75                      80

```

```

gca ttt ctc ctg gta caa gac ata atg gag gac acc atg cgc ttc aga 405
Ala Phe Leu Leu Val Gln Asp Ile Met Glu Asp Thr Met Arg Phe Arg
      85                      90                      95                      100

```

```

gat aac acc gcc aat ccc atc gcc att gtg cag ctg cag gaa ctc tct 453
Asp Asn Thr Ala Asn Pro Ile Ala Ile Val Gln Leu Gln Glu Leu Ser
      105                      110                      115

```

ttg	agg	ctg	aag	agc	tgc	ttc	acc	aag	gat	tat	gaa	gag	cat	gac	aag	501
Leu	Arg	Leu	Lys	Ser	Cys	Phe	Thr	Lys	Asp	Tyr	Glu	Glu	His	Asp	Lys	
		120						125					130			
gcc	tgc	gtc	cga	act	ttc	tat	gag	aca	cct	ctc	cag	ttg	ctg	gag	aag	549
Ala	Cys	Val	Arg	Thr	Phe	Tyr	Glu	Thr	Pro	Leu	Gln	Leu	Leu	Glu	Lys	
		135					140					145				
gtc	aag	aat	gtc	ttt	aat	gaa	aca	aag	aat	ctc	ctt	gac	aag	gac	tgg	597
Val	Lys	Asn	Val	Phe	Asn	Glu	Thr	Lys	Asn	Leu	Leu	Asp	Lys	Asp	Trp	
	150					155					160					
aat	att	ttc	agc	aag	aac	tgc	aac	aac	agc	ttt	gct	gaa	tgc	tcc	agc	645
Asn	Ile	Phe	Ser	Lys	Asn	Cys	Asn	Asn	Ser	Phe	Ala	Glu	Cys	Ser	Ser	
165					170					175					180	
caa	gat	gtg	gtg	acc	aag	cct	gat	tgc	aac	tgc	ctg	tac	ccc	aaa	gcc	693
Gln	Asp	Val	Val	Thr	Lys	Pro	Asp	Cys	Asn	Cys	Leu	Tyr	Pro	Lys	Ala	
				185					190					195		
atc	cct	agc	agt	gac	ccg	gcc	tct	gtc	tcc	cct	cat	cag	ccc	ctc	gcc	741
Ile	Pro	Ser	Ser	Asp	Pro	Ala	Ser	Val	Ser	Pro	His	Gln	Pro	Leu	Ala	
			200					205					210			
ccc	tcc	atg	gcc	cct	gtg	gct	ggc	ttg	acc	tgg	gag	gac	tct	gag	gga	789
Pro	Ser	Met	Ala	Pro	Val	Ala	Gly	Leu	Thr	Trp	Glu	Asp	Ser	Glu	Gly	
		215					220					225				
act	gag	ggc	agc	tcc	ctc	ttg	cct	ggg	gag	cag	ccc	ctg	cac	aca	gtg	837
Thr	Glu	Gly	Ser	Ser	Leu	Leu	Pro	Gly	Glu	Gln	Pro	Leu	His	Thr	Val	
	230					235					240					
gat	cca	ggc	agt	gcc	aag	cag	cgg	cca	ccc	agg	agc	acc	tgc	cag	agc	885
Asp	Pro	Gly	Ser	Ala	Lys	Gln	Arg	Pro	Pro	Arg	Ser	Thr	Cys	Gln	Ser	
245					250					255					260	
ttt	gag	ccg	cca	gag	acc	cca	gtt	gtc	aag	gac	agc	acc	atc	ggg	ggc	933
Phe	Glu	Pro	Pro	Glu	Thr	Pro	Val	Val	Lys	Asp	Ser	Thr	Ile	Gly	Gly	
				265					270					275		
tca	cca	cag	cct	cgc	ccc	tct	gtc	ggg	gcc	ttc	aac	ccc	ggg	atg	gag	981
Ser	Pro	Gln	Pro	Arg	Pro	Ser	Val	Gly	Ala	Phe	Asn	Pro	Gly	Met	Glu	
			280					285					290			
gat	att	ctt	gac	tct	gca	atg	ggc	act	aat	tgg	gtc	cca	gaa	gaa	gcc	1029
Asp	Ile	Leu	Asp	Ser	Ala	Met	Gly	Thr	Asn	Trp	Val	Pro	Glu	Glu	Ala	
		295					300					305				
tct	gga	gag	gcc	agt	gag	att	ccc	gta	ccc	caa	ggg	aca	gag	ctt	tcc	1077
Ser	Gly	Glu	Ala	Ser	Glu	Ile	Pro	Val	Pro	Gln	Gly	Thr	Glu	Leu	Ser	
	310					315					320					
ccc	tcc	agg	cca	gga	ggg	ggc	agc	atg	cag	aca	gag	ccc	gcc	aga	ccc	1125
Pro	Ser	Arg	Pro	Gly	Gly	Gly	Ser	Met	Gln	Thr	Glu	Pro	Ala	Arg	Pro	

325				330				335				340					
agc Ser	aac Asn	ttc Phe	ctc Leu	tca Ser	gca Ala	tct Ser	tct Ser	cca Pro	ctc Leu	cct Pro	gca Ala	tca Ser	gca Ala	aag Lys	ggc Gly	1173	
				345				350				355					
caa Gln	cag Gln	ccg Pro	gca Ala	gat Asp	gta Val	act Thr	gct Ala	aca Thr	gcc Ala	ttg Leu	ccc Pro	agg Arg	gtg Val	ggc Gly	ccc Pro	1221	
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gtg Val	atg Met	ccc Pro	act Thr	ggc Gly	cag Gln	gac Asp	tgg Trp	aat Asn	cac His	acc Thr	ccc Pro	cag Gln	aag Lys	aca Thr	gac Asp	1269	
				375				380				385					
cat His	cca Pro	tct Ser	gcc Ala	ctg Leu	ctc Leu	aga Arg	gac Asp	ccc Pro	ccg Pro	gag Glu	cca Pro	ggc Gly	tct Ser	ccc Pro	agg Arg	1317	
				390				395				400					
atc Ile	tca Ser	tca Ser	ctg Leu	cgc Arg	ccc Pro	cag Gln	gcc Ala	ctc Leu	agc Ser	aac Asn	ccc Pro	tcc Ser	acc Thr	ctc Leu	tct Ser	1365	
				405				410				415				420	
gct Ala	cag Gln	cca Pro	cag Gln	ctt Leu	tcc Ser	aga Arg	agc Ser	cac His	tcc Ser	tcg Ser	ggc Gly	agc Ser	gtg Val	ctg Leu	ccc Pro	1413	
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ctt Leu	ggg Gly	gag Glu	ctg Leu	gag Glu	ggc Gly	agg Arg	agg Arg	agc Ser	acc Thr	agg Arg	gat Asp	cgg Arg	acg Thr	agc Ser	ccc Pro	1461	
				440				445				450					
gca Ala	gag Glu	cca Pro	gaa Glu	gca Ala	gca Ala	cca Pro	gca Ala	agt Ser	gaa Glu	ggg Gly	gca Ala	gcc Ala	agg Arg	ccc Pro	ctg Leu	1509	
				455				460				465					
ccc Pro	cgt Arg	ttt Phe	aac Asn	tcc Ser	gtt Val	cct Pro	ttg Leu	act Thr	gac Asp	aca Thr	ggc Gly	cat His	gag Glu	agg Arg	cag Gln	1557	
				470				475				480					
tcc Ser	gag Glu	gga Gly	tcc Ser	tcc Ser	agc Ser	ccg Pro	cag Gln	ctc Leu	cag Gln	gag Glu	tct Ser	gtc Val	ttc Phe	cac His	ctg Leu	1605	
				485				490				495				500	
ctg Leu	gtg Val	ccc Pro	agt Ser	gtc Val	atc Ile	ctg Leu	gtc Val	ttg Leu	ctg Leu	gct Ala	gtc Val	gga Gly	ggc Gly	ctc Leu	ttg Leu	1653	
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				535				540				545					

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 Gln Val Glu Leu Pro Val  
 550

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aacagaggac attggctcac gcactgtgag attttgtttt tatacttgca actggtgaat 3837
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<210> 7
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<212> DNA
<213> Homo sapiens

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<220>
<221> CDS
<222> (1)..(321)

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cga gtg gca ctg ctg ctc ctg ctc ctg gta gcc gct ggc cgg cgc gca 96
Arg Val Ala Leu Leu Leu Leu Leu Leu Val Ala Ala Gly Arg Arg Ala
 20 25 30

gca gga gcg tcc gtg gcc act gaa ctg cgc tgc cag tgc ttg cag acc 144
Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr
 35 40 45

ctg cag gga att cac ccc aag aac atc caa agt gtg aac gtg aag tcc 192
Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser Val Asn Val Lys Ser
 50 55 60

ccc gga ccc cac tgc gcc caa acc gaa gtc ata gcc aca ctc aag aat 240
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn
 65 70 75 80

```

ggg cgg aaa gct tgc ctc aat cct gca tcc ccc ata gtt aag aaa atc 288  
 Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys Lys Ile  
                   85                                  90                                  95

atc gaa aag atg ctg aac agt gac aaa tcc aac tgaccagaag ggaggaggaa 341  
 Ile Glu Lys Met Leu Asn Ser Asp Lys Ser Asn  
                   100                                  105

gctcactggt ggctgttcct gaaggaggcc ctgcccttat aggaacagaa gaggaaagag 401  
 agacacagct gcagaggcca cctggattgt gcctaattgtg tttgagcatc gcttaggaga 461  
 agtcttctat ttatttattt attcattagt tttgaagatt ctatgttaat attttaggtg 521  
 taaaataatt aagggtatga ttaactctac ctgcacactg tcctattata ttcattcttt 581  
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 actgtgatag aggctggcgg atccaagcaa atggccaatg agatcattgt gaaggcaggg 761  
 gaatgtatgt gcacatctgt tttgtaactg tttagatgaa tgtcagttgt tatttattga 821  
 aatgatttca cagtgtgtgg tcaacatttc tcatgttgaa actttaagaa ctaaaatgtt 881  
 ctaaatatcc cttggacatt ttatgtcttt cttgtaaggc atactgcctt gtttaatggt 941  
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 atataaaaaat aaagcactta tag 1024

<210> 8  
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 <212> DNA  
 <213> Homo sapiens

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 <221> CDS  
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<220>  
 <221> modified\_base  
 <222> (27)  
 <223> a, c, t, g, other or unknown

<220>  
 <221> modified\_base  
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 <223> a, c, t, g, other or unknown

<400> 8





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<210> 9
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<212> DNA
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                                         Met Arg Ile Ala Val
                                         1             5

att tgc ttt tgc ctc cta ggc atc acc tgt gcc ata cca gtt aaa cag 164
Ile Cys Phe Cys Leu Leu Gly Ile Thr Cys Ala Ile Pro Val Lys Gln
                        10                15                20

gct gat tct gga agt tct gag gaa aag cag ctt tac aac aaa tac cca 212
Ala Asp Ser Gly Ser Ser Glu Glu Lys Gln Leu Tyr Asn Lys Tyr Pro
                        25                30                35

gat gct gtg gcc aca tgg cta aac cct gac cca tct cag aag cag aat 260
Asp Ala Val Ala Thr Trp Leu Asn Pro Asp Pro Ser Gln Lys Gln Asn
                        40                45                50

ctc cta gcc cca cag acc ctt cca agt aag tcc aac gaa agc cat gac 308
Leu Leu Ala Pro Gln Thr Leu Pro Ser Lys Ser Asn Glu Ser His Asp
                        55                60                65

cac atg gat gat atg gat gat gaa gat gat gat gac cat gtg gac agc 356
His Met Asp Asp Met Asp Asp Glu Asp Asp Asp Asp His Val Asp Ser
                        70                75                80                85

cag gac tcc att gac tcg aac gac tct gat gat gta gat gac act gat 404
Gln Asp Ser Ile Asp Ser Asn Asp Ser Asp Asp Val Asp Asp Thr Asp
                        90                95                100

gat tct cac cag tct gat gag tct cac cat tct gat gaa tct gat gaa 452
Asp Ser His Gln Ser Asp Glu Ser His His Ser Asp Glu Ser Asp Glu
                        105                110                115

ctg gtc act gat ttt ccc acg gac ctg cca gca acc gaa gtt ttc act 500
Leu Val Thr Asp Phe Pro Thr Asp Leu Pro Ala Thr Glu Val Phe Thr
                        120                125                130

cca gtt gtc ccc aca gta gac aca tat gat ggc cga ggt gat agt gtg 548
Pro Val Val Pro Thr Val Asp Thr Tyr Asp Gly Arg Gly Asp Ser Val
                        135                140                145

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gtt tat gga ctg agg tca aaa tct aag aag ttt cgc aga cct gac atc	596
Val Tyr Gly Leu Arg Ser Lys Ser Lys Lys Phe Arg Arg Pro Asp Ile	
150 155 160 165	
cag tac cct gat gct aca gac gag gac atc acc tca cac atg gaa agc	644
Gln Tyr Pro Asp Ala Thr Asp Glu Asp Ile Thr Ser His Met Glu Ser	
170 175 180	
gag gag ttg aat ggt gca tac aag gcc atc ccc gtt gcc cag gac ctg	692
Glu Glu Leu Asn Gly Ala Tyr Lys Ala Ile Pro Val Ala Gln Asp Leu	
185 190 195	
aac gcg cct tct gat tgg gac agc cgt ggg aag gac agt tat gaa acg	740
Asn Ala Pro Ser Asp Trp Asp Ser Arg Gly Lys Asp Ser Tyr Glu Thr	
200 205 210	
agt cag ctg gat gac cag agt gct gaa acc cac agc cac aag cag tcc	788
Ser Gln Leu Asp Asp Gln Ser Ala Glu Thr His Ser His Lys Gln Ser	
215 220 225	
aga tta tat aag cgg aaa gcc aat gat gag agc aat gag cat tcc gat	836
Arg Leu Tyr Lys Arg Lys Ala Asn Asp Glu Ser Asn Glu His Ser Asp	
230 235 240 245	
gtg att gat agt cag gaa ctt tcc aaa gtc agc cgt gaa ttc cac agc	884
Val Ile Asp Ser Gln Glu Leu Ser Lys Val Ser Arg Glu Phe His Ser	
250 255 260	
cat gaa ttt cac agc cat gaa gat atg ctg gtt gta gac ccc aaa agt	932
His Glu Phe His Ser His Glu Asp Met Leu Val Val Asp Pro Lys Ser	
265 270 275	
aag gaa gaa gat aaa cac ctg aaa ttt cgt att tct cat gaa tta gat	980
Lys Glu Glu Asp Lys His Leu Lys Phe Arg Ile Ser His Glu Leu Asp	
280 285 290	
agt gca tct tct gag gtc aat taaaaggaga aaaaatacaa tttctcactt	1031
Ser Ala Ser Ser Glu Val Asn	
295 300	
tgcatttagt caaaagaaaa aatgctttat agcaaaatga aagagaacat gaaatgcttc	1091
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ataattagtt tagtttgtgg cttcatggaa actccctgta aactaaaagc ttcagggtta	1211
tgtctatggt cattctatag aagaaatgca aactatcact gtatttttaat atttgttatt	1271
ctctcatgaa tagaaattta tgtagaagca aacaaaatac ttttaccac ttaaaaagag	1331
aatataacat tttatgtcac tataatcttt tgttttttta gttagtgtat attttgttgt	1391
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			Met	Glu	His	Gln	Leu	Leu	Cys	Cys	Glu					
			1					5								
gtg	gaa	acc	atc	cgc	cgc	gcg	tac	ccc	gat	gcc	aac	ctc	ctc	aac	gac	219
Val	Glu	Thr	Ile	Arg	Arg	Ala	Tyr	Pro	Asp	Ala	Asn	Leu	Leu	Asn	Asp	
10					15					20					25	
cgg	gtg	ctg	cgg	gcc	atg	ctg	aag	gcg	gag	gag	acc	tgc	gcg	ccc	tcg	267
Arg	Val	Leu	Arg	Ala	Met	Leu	Lys	Ala	Glu	Glu	Thr	Cys	Ala	Pro	Ser	
				30					35					40		
gtg	tcc	tac	ttc	aaa	tgt	gtg	cag	aag	gag	gtc	ctg	ccg	tcc	atg	cgg	315
Val	Ser	Tyr	Phe	Lys	Cys	Val	Gln	Lys	Glu	Val	Leu	Pro	Ser	Met	Arg	
			45					50					55			
aag	atc	gtc	gcc	acc	tgg	atg	ctg	gag	gtc	tgc	gag	gaa	cag	aag	tgc	363
Lys	Ile	Val	Ala	Thr	Trp	Met	Leu	Glu	Val	Cys	Glu	Glu	Gln	Lys	Cys	
		60					65					70				
gag	gag	gag	gtc	ttc	ccg	ctg	gcc	atg	aac	tac	ctg	gac	cgc	ttc	ctg	411
Glu	Glu	Glu	Val	Phe	Pro	Leu	Ala	Met	Asn	Tyr	Leu	Asp	Arg	Phe	Leu	
		75				80					85					
tcg	ctg	gag	ccc	gtg	aaa	aag	agc	cgc	ctg	cag	ctg	ctg	ggg	gcc	act	459
Ser	Leu	Glu	Pro	Val	Lys	Lys	Ser	Arg	Leu	Gln	Leu	Leu	Gly	Ala	Thr	
90					95					100					105	
tgc	atg	ttc	gtg	gcc	tct	aag	atg	aag	gag	acc	atc	ccc	ctg	acg	gcc	507
Cys	Met	Phe	Val	Ala	Ser	Lys	Met	Lys	Glu	Thr	Ile	Pro	Leu	Thr	Ala	
				110					115					120		
gag	aag	ctg	tgc	atc	tac	acc	gac	ggc	tcc	atc	cgg	ccc	gag	gag	ctg	555
Glu	Lys	Leu	Cys	Ile	Tyr	Thr	Asp	Gly	Ser	Ile	Arg	Pro	Glu	Glu	Leu	
		125						130					135			

ctg	caa	atg	gag	ctg	ctc	ctg	gtg	aac	aag	ctc	aag	tgg	aac	ctg	gcc	603
Leu	Gln	Met	Glu	Leu	Leu	Leu	Val	Asn	Lys	Leu	Lys	Trp	Asn	Leu	Ala	
		140					145					150				
gca	atg	acc	ccg	cac	gat	ttc	att	gaa	cac	ttc	ctc	tcc	aaa	atg	cca	651
Ala	Met	Thr	Pro	His	Asp	Phe	Ile	Glu	His	Phe	Leu	Ser	Lys	Met	Pro	
	155					160					165					
gag	gcg	gag	gag	aac	aaa	cag	atc	atc	cgc	aaa	cac	gcg	cag	acc	ttc	699
Glu	Ala	Glu	Glu	Asn	Lys	Gln	Ile	Ile	Arg	Lys	His	Ala	Gln	Thr	Phe	
170					175					180					185	
gtt	gcc	tct	tgt	gcc	aca	gat	gtg	aag	ttc	att	tcc	aat	ccg	ccc	tcc	747
Val	Ala	Ser	Cys	Ala	Thr	Asp	Val	Lys	Phe	Ile	Ser	Asn	Pro	Pro	Ser	
				190					195					200		
atg	gtg	gca	gcg	ggg	agc	gtg	gtg	gcc	gca	gtg	caa	ggc	ctg	aac	ctg	795
Met	Val	Ala	Ala	Gly	Ser	Val	Val	Ala	Ala	Val	Gln	Gly	Leu	Asn	Leu	
			205					210					215			
agg	agc	ccc	aac	aac	ttc	ctg	tcc	tac	tac	cgc	ctc	aca	cgc	ttc	ctc	843
Arg	Ser	Pro	Asn	Asn	Phe	Leu	Ser	Tyr	Tyr	Arg	Leu	Thr	Arg	Phe	Leu	
		220					225					230				
tcc	aga	gtg	atc	aag	tgt	gac	cca	gac	tgc	ctc	cgg	gcc	tgc	cag	gag	891
Ser	Arg	Val	Ile	Lys	Cys	Asp	Pro	Asp	Cys	Leu	Arg	Ala	Cys	Gln	Glu	
	235					240					245					
cag	atc	gaa	gcc	ctg	ctg	gag	tca	agc	ctg	cgc	cag	gcc	cag	cag	aac	939
Gln	Ile	Glu	Ala	Leu	Leu	Glu	Ser	Ser	Leu	Arg	Gln	Ala	Gln	Gln	Asn	
250					255					260					265	
atg	gac	ccc	aag	gcc	gcc	gag	gag	gag	gaa	gag	gag	gag	gag	gag	gtg	987
Met	Asp	Pro	Lys	Ala	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Val	
				270				275						280		
gac	ctg	gct	tgc	aca	ccc	acc	gac	gtg	cgg	gac	gtg	gac	atc			1029
Asp	Leu	Ala	Cys	Thr	Pro	Thr	Asp	Val	Arg	Asp	Val	Asp	Ile			
			285					290					295			
tgagggggccc aggcaggcgg gcgccaccgc caccgcgagc gagggcggag ccggccccag															1089	
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caaaagaaaa agattaccca aaaactgtct ttaaaagaga gagagag															1256	

&lt;210&gt; 11

&lt;211&gt; 2121

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (559)..(1875)

&lt;400&gt; 11

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ataaaagccg gttttcgggg ctttatctaa ctcgctgtag taattccagc gagaggcaga 180
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cagcggggcgg gcactttgca ctggaactta caacaccoga gcaaggacgc gactctcccg 420
acgcgggggag gctattctgc ccatttgggg acacttcccc gccgctgcca ggaccgctt 480
ctctgaaagg ctctccttgc agctgcttag acgctggatt tttttcgggt agtggaaaac 540

cagcagcctc ccgcgacg atg ccc ctc aac gtt agc ttc acc aac agg aac 591
                  Met Pro Leu Asn Val Ser Phe Thr Asn Arg Asn
                        1             5             10

tat gac ctc gac tac gac tcg gtg cag ccg tat ttc tac tgc gac gag 639
Tyr Asp Leu Asp Tyr Asp Ser Val Gln Pro Tyr Phe Tyr Cys Asp Glu
                15             20             25

gag gag aac ttc tac cag cag cag cag cag agc gag ctg cag ccc ccg 687
Glu Glu Asn Phe Tyr Gln Gln Gln Gln Gln Ser Glu Leu Gln Pro Pro
                30             35             40

gcg ccc agc gag gat atc tgg aag aaa ttc gag ctg ctg ccc acc ccg 735
Ala Pro Ser Glu Asp Ile Trp Lys Lys Phe Glu Leu Leu Pro Thr Pro
                45             50             55

ccc ctg tcc cct agc cgc cgc tcc ggg ctc tgc tcg ccc tcc tac gtt 783
Pro Leu Ser Pro Ser Arg Arg Ser Gly Leu Cys Ser Pro Ser Tyr Val
                60             65             70             75

gcg gtc aca ccc ttc tcc ctt cgg gga gac aac gac ggc ggt ggc ggg 831
Ala Val Thr Pro Phe Ser Leu Arg Gly Asp Asn Asp Gly Gly Gly Gly
                80             85             90

agc ttc tcc acg gcc gac cag ctg gag atg gtg acc gag ctg ctg gga 879
Ser Phe Ser Thr Ala Asp Gln Leu Glu Met Val Thr Glu Leu Leu Gly
                95             100             105

gga gac atg gtg aac cag agt ttc atc tgc gac ccg gac gac gag acc 927
Gly Asp Met Val Asn Gln Ser Phe Ile Cys Asp Pro Asp Asp Glu Thr

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110	115	120	
ttc atc aaa aac atc atc atc cag gac tgt atg tgg agc ggc ttc tcg Phe Ile Lys Asn Ile Ile Ile Gln Asp Cys Met Trp Ser Gly Phe Ser 125 130 135			975
gcc gcc gcc aag ctc gtc tca gag aag ctg gcc tcc tac cag gct gcg Ala Ala Ala Lys Leu Val Ser Glu Lys Leu Ala Ser Tyr Gln Ala Ala 140 145 150 155			1023
cgc aaa gac agc ggc agc ccg aac ccc gcc cgc ggc cac agc gtc tgc Arg Lys Asp Ser Gly Ser Pro Asn Pro Ala Arg Gly His Ser Val Cys 160 165 170			1071
tcc acc tcc agc ttg tac ctg cag gat ctg agc gcc gcc gcc tca gag Ser Thr Ser Ser Leu Tyr Leu Gln Asp Leu Ser Ala Ala Ala Ser Glu 175 180 185			1119
tgc atc gac ccc tcg gtg gtc ttc ccc tac cct ctc aac gac agc agc Cys Ile Asp Pro Ser Val Val Phe Pro Tyr Pro Leu Asn Asp Ser Ser 190 195 200			1167
tcg ccc aag tcc tgc gcc tcg caa gac tcc agc gcc ttc tct ccg tcc Ser Pro Lys Ser Cys Ala Ser Gln Asp Ser Ser Ala Phe Ser Pro Ser 205 210 215			1215
tcg gat tct ctg ctc tcc tcg acg gag tcc tcc ccg cag ggc agc ccc Ser Asp Ser Leu Leu Ser Ser Thr Glu Ser Ser Pro Gln Gly Ser Pro 220 225 230 235			1263
gag ccc ctg gtg ctc cat gag gag aca ccg ccc acc acc agc agc gac Glu Pro Leu Val Leu His Glu Glu Thr Pro Pro Thr Thr Ser Ser Asp 240 245 250			1311
tct gag gag gaa caa gaa gat gag gaa gaa atc gat gtt gtt tct gtg Ser Glu Glu Glu Gln Glu Asp Glu Glu Glu Ile Asp Val Val Ser Val 255 260 265			1359
gaa aag agg cag gct cct ggc aaa agg tca gag tct gga tca cct tct Glu Lys Arg Gln Ala Pro Gly Lys Arg Ser Glu Ser Gly Ser Pro Ser 270 275 280			1407
gct gga ggc cac agc aaa cct cct cac agc cca ctg gtc ctc aag agg Ala Gly Gly His Ser Lys Pro Pro His Ser Pro Leu Val Leu Lys Arg 285 290 295			1455
tgc cac gtc tcc aca cat cag cac aac tac gca gcg cct ccc tcc act Cys His Val Ser Thr His Gln His Asn Tyr Ala Ala Pro Pro Ser Thr 300 305 310 315			1503
cgg aag gac tat cct gct gcc aag agg gtc aag ttg gac agt gtc aga Arg Lys Asp Tyr Pro Ala Ala Lys Arg Val Lys Leu Asp Ser Val Arg 320 325 330			1551

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gtc ctg aga cag atc agc aac aac cga aaa tgc acc agc ccc agg tcc 1599
Val Leu Arg Gln Ile Ser Asn Asn Arg Lys Cys Thr Ser Pro Arg Ser
      335                      340                      345

tcg gac acc gag gag aat gtc aag agg cga aca cac aac gtc ttg gag 1647
Ser Asp Thr Glu Glu Asn Val Lys Arg Arg Thr His Asn Val Leu Glu
      350                      355                      360

cgc cag agg agg aac gag cta aaa cgg agc ttt ttt gcc ctg cgt gac 1695
Arg Gln Arg Arg Asn Glu Leu Lys Arg Ser Phe Phe Ala Leu Arg Asp
      365                      370                      375

cag atc ccg gag ttg gaa aac aat gaa aag gcc ccc aag gta gtt atc 1743
Gln Ile Pro Glu Leu Glu Asn Asn Glu Lys Ala Pro Lys Val Val Ile
      380                      385                      390                      395

ctt aaa aaa gcc aca gca tac atc ctg tcc gtc caa gca gag gag caa 1791
Leu Lys Lys Ala Thr Ala Tyr Ile Leu Ser Val Gln Ala Glu Glu Gln
      400                      405                      410

aag ctc att tct gaa gag gac ttg ttg cgg aaa cga cga gaa cag ttg 1839
Lys Leu Ile Ser Glu Glu Asp Leu Leu Arg Lys Arg Arg Glu Gln Leu
      415                      420                      425

aaa cac aaa ctt gaa cag cta cgg aac tct tgt gcg taaggaaaag 1885
Lys His Lys Leu Glu Gln Leu Arg Asn Ser Cys Ala
      430                      435

taaggaaaac gattccttct aacagaaatg tcctgagcaa tcacctatga acttgtttca 1945
aatgcatgat caaatgcaac ctcaaacct tggctgagtc ttgagactga aagatttagc 2005
cataatgtaa actgcctcaa attggacttt gggcataaaa gaactttttt atgcttacca 2065
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<210> 12
<211> 2098
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (79)..(570)

<400> 12
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gcactcagag gaggcgcc atg tca gaa ccg gct ggg gat gtc cgt cag aac 111
Met Ser Glu Pro Ala Gly Asp Val Arg Gln Asn
      1                      5                      10

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cca tgc ggc agc aag gcc tgc cgc cgc ctc ttc ggc cca gtg gac agc	159
Pro Cys Gly Ser Lys Ala Cys Arg Arg Leu Phe Gly Pro Val Asp Ser	
15 20 25	
gag cag ctg agc cgc gac tgt gat gcg cta atg gcg ggc tgc atc cag	207
Glu Gln Leu Ser Arg Asp Cys Asp Ala Leu Met Ala Gly Cys Ile Gln	
30 35 40	
gag gcc cgt gag cga tgg aac ttc gac ttt gtc acc gag aca cca ctg	255
Glu Ala Arg Glu Arg Trp Asn Phe Asp Phe Val Thr Glu Thr Pro Leu	
45 50 55	
gag ggt gac ttc gcc tgg gag cgt gtg cgg ggc ctt ggc ctg ccc aag	303
Glu Gly Asp Phe Ala Trp Glu Arg Val Arg Gly Leu Gly Leu Pro Lys	
60 65 70 75	
ctc tac ctt ccc acg ggg ccc cgg cga ggc cgg gat gag ttg gga gga	351
Leu Tyr Leu Pro Thr Gly Pro Arg Arg Gly Arg Asp Glu Leu Gly Gly	
80 85 90	
ggc agg cgg cct ggc acc tca cct gct ctg ctg cag ggg aca gca gag	399
Gly Arg Arg Pro Gly Thr Ser Pro Ala Leu Leu Gln Gly Thr Ala Glu	
95 100 105	
gaa gac cat gtg gac ctg tca ctg tct tgt acc ctt gtg cct cgc tca	447
Glu Asp His Val Asp Leu Ser Leu Ser Cys Thr Leu Val Pro Arg Ser	
110 115 120	
ggg gag cag gct gaa ggg tcc cca ggt gga cct gga gac tct cag ggt	495
Gly Glu Gln Ala Glu Gly Ser Pro Gly Gly Pro Gly Asp Ser Gln Gly	
125 130 135	
cga aaa cgg cgg cag acc agc atg aca gat ttc tac cac tcc aaa cgc	543
Arg Lys Arg Arg Gln Thr Ser Met Thr Asp Phe Tyr His Ser Lys Arg	
140 145 150 155	
cgg ctg atc ttc tcc aag agg aag ccc taatccgccc acaggaagcc	590
Arg Leu Ile Phe Ser Lys Arg Lys Pro	
160	
tgcagtcctg gaagcgcgag ggcctcaaag gcccgctcta catcttctgc cttagtctca	650
gtttgtgtgt cttaattatt atttgtgttt taatttaaac acctcctcat gtacataccc	710
tggccgcccc ctgccccca gcctctggca ttagaattat ttaaacaaaa actaggcggt	770
tgaatgagag gttcctaaga gtgctgggca tttttatttt atgaaatact atttaaagcc	830
tcctcatccc gtgttctcct tttcctctct cccggagggt ggggtgggccc gcttcatgcc	890
agctacttcc tcctccccac ttgtccgctg ggtggtagccc tctggagggg tgtggctcct	950
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<210> 13
<211> 827
<212> DNA
<213> Homo sapiens

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<220>
<221> CDS
<222> (256) .. (570)

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ccgctgtggc cctcgtgctg atgctactga ggagccagcg tctagggcag cagccgcttc 240
ctagaagacc aggtc atg atg atg ggc agc gcc cga gtg gcg gag ctg ctg 291
          Met Met Met Gly Ser Ala Arg Val Ala Glu Leu Leu
              1              5              10

ctg ctc cac ggc gcg gag ccc aac tgc gcc gac ccc gcc act ctc acc 339
Leu Leu His Gly Ala Glu Pro Asn Cys Ala Asp Pro Ala Thr Leu Thr
              15              20              25

cga ccc gtg cac gac gct gcc cgg gag ggc ttc ctg gac acg ctg gtg 387
Arg Pro Val His Asp Ala Ala Arg Glu Gly Phe Leu Asp Thr Leu Val
              30              35              40

gtg ctg cac cgg gcc ggg gcg cgg ctg gac gtg cgc gat gcc tgg ggc 435
Val Leu His Arg Ala Gly Ala Arg Leu Asp Val Arg Asp Ala Trp Gly
              45              50              55              60

cgt ctg ccc gtg gac ctg gct gag gag ctg ggc cat cgc gat gtc gca 483
Arg Leu Pro Val Asp Leu Ala Glu Glu Leu Gly His Arg Asp Val Ala
              65              70              75

cgg tac ctg cgc gcg gct gcg ggg ggc acc aga ggc agt aac cat gcc 531
Arg Tyr Leu Arg Ala Ala Ala Gly Gly Thr Arg Gly Ser Asn His Ala
              80              85              90

cgc ata gat gcc gcg gaa ggt ccc tca gac atc ccc gat tgaaagaacc 580
Arg Ile Asp Ala Ala Glu Gly Pro Ser Asp Ile Pro Asp
              95              100              105

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ccacaactgc ccccgccaca acccaccgctg ctttcgtagt tttcatttag aaaatagagc 700
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<210> 14
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<212> DNA
<213> Homo sapiens

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<220>
<221> CDS
<222> (163)..(681)

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<400> 14

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gggcgcgctc aggggaaggcg ggtgcgcgcc tgcggggcgg ag atg ggc agg ggg 174
                               Met Gly Arg Gly
                               1

cgg tgc gtg ggt ccc agt ctg cag tta agg ggg cag gag tgg cgc tgc 222
Arg Cys Val Gly Pro Ser Leu Gln Leu Arg Gly Gln Glu Trp Arg Cys
  5                               10                               15                               20

tca cct ctg gtg cca aag ggc ggc gca gcg gct gcc gag ctc ggc cct 270
Ser Pro Leu Val Pro Lys Gly Gly Ala Ala Ala Ala Glu Leu Gly Pro
                25                               30                               35

gga ggc ggc gag aac atg gtg cgc agg ttc ttg gtg acc ctc cgg att 318
Gly Gly Gly Glu Asn Met Val Arg Arg Phe Leu Val Thr Leu Arg Ile
                40                               45                               50

cgg cgc gcg tgc ggc ccg ccg cga gtg agg gtt ttc gtg gtt cac atc 366
Arg Arg Ala Cys Gly Pro Pro Arg Val Arg Val Phe Val Val His Ile
                55                               60                               65

ccg cgg ctc acg ggg gag tgg gca gcg cca ggg gcg ccc gcc gct gtg 414
Pro Arg Leu Thr Gly Glu Trp Ala Ala Pro Gly Ala Pro Ala Ala Val
                70                               75                               80

gcc ctc gtg ctg atg cta ctg agg agc cag cgt cta ggg cag cag ccg 462
Ala Leu Val Leu Met Leu Leu Arg Ser Gln Arg Leu Gly Gln Gln Pro
                85                               90                               95                               100

ctt cct aga aga cca ggt cat gat gat ggg cag cgc ccg agt ggc gga 510
Leu Pro Arg Arg Pro Gly His Asp Asp Gly Gln Arg Pro Ser Gly Gly
                105                               110                               115

gct gct gct gct cca cgg cgc gga gcc caa ctg cgc cga ccc cgc cac 558
Ala Ala Ala Ala Pro Arg Arg Gly Ala Gln Leu Arg Arg Pro Arg His
                120                               125                               130

tct cac ccg acc cgt gca cga cgc tgc ccg gga ggg ctt cct gga cac 606
Ser His Pro Thr Arg Ala Arg Arg Cys Pro Gly Gly Leu Pro Gly His
                135                               140                               145

gct ggt ggt gct gca ccg ggc cgg ggc gcg gct gga cgt gcg cga tgc 654
Ala Gly Gly Ala Ala Pro Gly Arg Gly Ala Ala Gly Arg Ala Arg Cys
                150                               155                               160

ctg ggg ccg tct gcc cgt gga cct ggc tgaggagctg ggccatcgcg 701
Leu Gly Pro Ser Ala Arg Gly Pro Gly
165                               170

atgtcgcacg gtacctgcgc gcggctgcgg ggggcaccag aggcagtaac catgcccgca 761

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ccacaaccca	ccccgctttc	gtagttttca	tttagaaaat	agagctttta	aaaatgtcct	941
gccttttaac	gtagatatat	gccttcccc	actaccgtaa	atgtccattt	atatcatttt	1001
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ggagttttct	ggagtgagca	ctcacgcct	aagcgcacat	tcatgtgggc	atttcttgcg	1121
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tcaggggggt	tactggcttc	tcttgagtca	cactgctagc	aaatggcaga	accaaagctc	1241
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<211> 1850
<212> DNA
<213> Homo sapiens
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<221> CDS
<222> (213) .. (1616)
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tgccagcaga	ttcagtgtca	tgtgaggacg	tgcttctctg	ttcatagata	agagcttgga											180
gctcggcgca caaccagcac catctggctg cg atg gtg gac acg gaa agc cca																233
Met Val Asp Thr Glu Ser Pro																
1 5																
ctc tgc ccc ctc tcc cca ctc gag gcc ggc gat cta gag agc ccg tta																281
Leu Cys Pro Leu Ser Pro Leu Glu Ala Gly Asp Leu Glu Ser Pro Leu																
10 15 20																
tct gaa gag ttc ctg caa gaa atg gga aac atc caa gag att tcg caa																329
Ser Glu Glu Phe Leu Gln Glu Met Gly Asn Ile Gln Glu Ile Ser Gln																
25 30 35																
tcc atc ggc gag gat agt tct gga agc ttt ggc ttt acg gaa tac cag																377
Ser Ile Gly Glu Asp Ser Ser Gly Ser Phe Gly Phe Thr Glu Tyr Gln																
40 45 50 55																
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Tyr	Asp	Lys	Cys	Asp	Arg	Ser	Cys	Lys	Ile	Gln	Lys	Lys	Asn	Arg	Asn			
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Lys	Ala	Ser	Asn	Asn	Pro	Pro	Phe	Val	Ile	His	Asp	Met	Glu	Thr	Leu			
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Gly Phe Ala Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr	
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Gly Val Tyr Glu Ala Ile Phe Ala Met Leu Ser Ser Val Met Asn Lys	
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Asp Gly Met Leu Val Ala Tyr Gly Asn Gly Phe Ile Thr Arg Glu Phe	
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Asp Phe Ala Met Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Ile	
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Leu Asn Val Gly His Ile Glu Lys Met Gln Glu Gly Ile Val His Val	
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Pro Lys Leu Leu Gln Lys Met Ala Asp Leu Arg Gln Leu Val Thr Glu	
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Thr	Pro	Leu	Gln	Glu	Gln	Ser	Lys	Glu	Val	Ala	Ile	Arg	Ile	Phe	Gln		
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Met Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe	
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Asp Arg Pro Gly Leu Leu Asn Val Lys Pro Ile Glu Asp Ile Gln Asp	
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Asn Leu Leu Gln Ala Leu Glu Leu Gln Leu Lys Leu Asn His Pro Glu	
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Gln Ile Val Thr Glu His Val Gln Leu Leu Gln Val Ile Lys Lys Thr	
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Ala Glu Gly Ala Pro Glu Leu Asn Gly Gly Pro Gln His Ala Leu Pro
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ctg gac caa ctg cag atg ggc tgt gac ggg gcc tca tgc ggc agc ctc 547
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ggt gtt cat gca tgt gag ggg tgc aag ggc ttc ttc cgt cgt acg atc 643
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Arg Met Lys Leu Glu Tyr Glu Lys Cys Glu Arg Ser Cys Lys Ile Gln
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aag aag aac cgc aac aag tgc cag tac tgc cgc ttc cag aag tgc ctg 739
Lys Lys Asn Arg Asn Lys Cys Gln Tyr Cys Arg Phe Gln Lys Cys Leu
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Gln	Tyr	Asn	Pro	Gln	Val	Ala	Asp	Leu	Lys	Ala	Phe	Ser	Lys	His	Ile	
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Tyr	Asn	Ala	Tyr	Leu	Lys	Asn	Phe	Asn	Met	Thr	Lys	Lys	Lys	Ala	Arg	
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Asp	Ile	Glu	Thr	Leu	Trp	Gln	Ala	Glu	Lys	Gly	Leu	Val	Trp	Lys	Gln	
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Phe	Ala	Lys	Ser	Ile	Pro	Ser	Phe	Ser	Ser	Leu	Phe	Leu	Asn	Asp	Gln	
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Thr Glu Thr Glu Thr Ser Leu His Pro Leu Leu Gln Glu Ile Tyr Lys	
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Trp His Ala Ala Trp Gly Leu Cys Leu Val Pro Leu Ser Leu Ala Gln
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Ile Asp Leu Asn Ile Thr Cys Arg Phe Ala Gly Val Phe His Val Glu
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Lys Asn Gly Arg Tyr Ser Ile Ser Arg Thr Glu Ala Ala Asp Leu Cys
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gtg ggc ttt aac att gtc aag acg gcc aca ctg aag aag ctg gtc tgc	1697		
Val Gly Phe Asn Ile Val Lys Thr Ala Thr Leu Lys Lys Leu Val Cys			
445	450	455	
ctc aac acc aag acc tgt ccc tac gtt tcc ttc cgt gtg ccg gat gcc	1745		
Leu Asn Thr Lys Thr Cys Pro Tyr Val Ser Phe Arg Val Pro Asp Ala			
460	465	470	475
agt cag gat gat ggg cct gct gtg gag cga cca tcc aca gag	1787		
Ser Gln Asp Asp Gly Pro Ala Val Glu Arg Pro Ser Thr Glu			
480	485		
ctctgagggg caggaaagca gcattctgga ggggagagct ttgtgcttgt cattccagag 1847			
tgctgaggcc agggctgatg gtcttaaagt ctcattttct ggtttgcat ggtgagtgtt 1907			
ggggttgaca tttagaactt taagtctcac ccattatctg gaatattgtg attctgttta 1967			
ttcttccaga atgctgaact ccttgttagc ccttcagatt gttaggagtg gttctcattt 2027			
ggctctgccag aatactgggt tcttagttga caacctagaa tgtcagattt ctgggtgatt 2087			
tgtaacacag tcattctagg atgtggagct actgatgaaa tctgctagaa agttaggggg 2147			
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 <222> (232)..(519)

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ctcagcgccc agcaccgccc ctcccggcaa cccggagcgc gcaccgcagc cggcggccga 180
gctcgcgcat cccagccatc actcttccac ctgctcctta gagaaggga g atg agt 237
                                     Met Ser
                                     1
gag tcg agc tcg aag tcc agc cag ccc ttg gcc tcc aag cag gaa aag 285
Glu Ser Ser Ser Lys Ser Ser Gln Pro Leu Ala Ser Lys Gln Glu Lys
      5                10                15
gac ggc act gag aag cgg ggc cgg ggc agg ccg cgc aag cag cct ccg 333
Asp Gly Thr Glu Lys Arg Gly Arg Gly Arg Pro Arg Lys Gln Pro Pro
      20                25                30
aag gag ccc agc gaa gtg cca aca cct aag aga cct cgg ggc cga cca 381
Lys Glu Pro Ser Glu Val Pro Thr Pro Lys Arg Pro Arg Gly Arg Pro
      35                40                45                50
aag gga agc aaa aac aag ggt gct gcc aag acc cgg aaa acc acc aca 429
Lys Gly Ser Lys Asn Lys Gly Ala Ala Lys Thr Arg Lys Thr Thr Thr
      55                60                65
act cca gga agg aaa cca agg ggc aga ccc aaa aaa ctg gag aag gag 477
Thr Pro Gly Arg Lys Pro Arg Gly Arg Pro Lys Lys Leu Glu Lys Glu
      70                75                80
gaa gag gag ggc atc tcg cag gag tcc tcg gag gag gag gag 519
Glu Glu Glu Gly Ile Ser Gln Glu Ser Ser Glu Glu Glu Gln
      85                90                95
tgacccatgc gtgccgcctg ctctcactg gaggagcagc ttccttctgg gactggacag 579
ctttgctccg ctcccaccgc cccgcacct tcccaggcc caccatcacc accgcctctg 639
gccgccaccc ccattctcca cctgtgccct caccaccaca ctacacagca caccagccgc 699
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cctgggaggg ttccccctgg ccttaaaagg ggcccaagcc catctcatcc tggcacgccc 999
tactccactg ccctggcagc agcaggtgtg gccaatggag gggggtgctg gccccagga 1059

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tccctagtgcc ccgtactagg ttggacagcc cccttcggct acaggaaggc aggaggggtg 1179
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<212> DNA
<213> Homo sapiens

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<221> CDS
<222> (96)..(332)

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cgctctcggtt tcattttctg cagcgcgcca cgagg atg gcc cac aag cag atc 113
                               Met Ala His Lys Gln Ile
                               1           5

tac tac tcg gac aag tac ttc gac gaa cac tac gag tac cgg cat gtt 161
Tyr Tyr Ser Asp Lys Tyr Phe Asp Glu His Tyr Glu Tyr Arg His Val
                10                15                20

atg tta ccc aga gaa ctt tcc aaa caa gta cct aaa act cat ctg atg 209
Met Leu Pro Arg Glu Leu Ser Lys Gln Val Pro Lys Thr His Leu Met
                25                30                35

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tct gaa gag gag tgg agg aga ctt ggt gtc caa cag agt cta ggc tgg 257  
 Ser Glu Glu Glu Trp Arg Arg Leu Gly Val Gln Gln Ser Leu Gly Trp  
     40                    45                    50

gtt cat tac atg att cat gag cca gaa cca cat att ctt ctc ttt aga 305  
 Val His Tyr Met Ile His Glu Pro Glu Pro His Ile Leu Leu Phe Arg  
     55                    60                    65                    70

cga cct ctt cca aaa gat caa caa aaa tgaagtttat ctgggggatcg 352  
 Arg Pro Leu Pro Lys Asp Gln Gln Lys  
                     75

tcaaattcttt ttcaaattta atgtatatgt gtatataagg tagtattcag tgaataacttg 412

agaaatgtac aaatctttca tccataacctg tgcattgagct gtattcttca cagcaacaga 472

gctcagttta atgcaactgc aagtaggtta ctgtaagatg tttaagataa aagttcttcc 532

agtcagtttt tctcttaagt gctgtttga gtttactgaa acagtttact tttgttcaat 592

aaagtttgta tgttgcattt aaaaaaaaaa aaaa 626

<210> 22  
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 <222> (268)..(2922)

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 accaacaccg acaccacat tgacacctcc agtccggcca gccgtccac tcgttgccct 180  
 tgcattctca cacatggcgt cctcgccgag agcggcggct cctccggggg accgcgggtc 240  
 cccaccgtgc agcggggcat catcaag atg gtc ctc tca ggg tgc gcc atc att 294  
                     Met Val Leu Ser Gly Cys Ala Ile Ile  
                     1                    5

gtc cga ggt cag cct cgt ggt ggg cct cct cct gag cgg cag atc aac 342  
 Val Arg Gly Gln Pro Arg Gly Gly Pro Pro Pro Glu Arg Gln Ile Asn  
     10                    15                    20                    25

ctc agc aac att cgt gct gga aat ctt gct cgc cgg gca gcc gcc aca 390  
 Leu Ser Asn Ile Arg Ala Gly Asn Leu Ala Arg Arg Ala Ala Ala Thr  
                     30                    35                    40



caa cct gat gca aag gat acc cct gat gag ccc tgg gca ttt cca gct	438
Gln Pro Asp Ala Lys Asp Thr Pro Asp Glu Pro Trp Ala Phe Pro Ala	
45 50 55	
cga gag ttc ctt cga aag aag ctg att ggg aag gaa gtc tgt ttc acg	486
Arg Glu Phe Leu Arg Lys Lys Leu Ile Gly Lys Glu Val Cys Phe Thr	
60 65 70	
ata gaa aac aag act ccc cag ggg cga gag tat ggc atg atc tac ctt	534
Ile Glu Asn Lys Thr Pro Gln Gly Arg Glu Tyr Gly Met Ile Tyr Leu	
75 80 85	
gga aaa gat acc aat ggg gaa aac att gca gaa tca ctg gtt gca gag	582
Gly Lys Asp Thr Asn Gly Glu Asn Ile Ala Glu Ser Leu Val Ala Glu	
90 95 100 105	
ggc tta gcc acc cgg aga gaa ggc atg aga gct aat aat cct gag cag	630
Gly Leu Ala Thr Arg Arg Glu Gly Met Arg Ala Asn Asn Pro Glu Gln	
110 115 120	
aac cgg ctt tca gaa tgt gaa gaa caa gca aag gca gcc aag aaa ggg	678
Asn Arg Leu Ser Glu Cys Glu Glu Gln Ala Lys Ala Ala Lys Lys Gly	
125 130 135	
atg tgg agt gag ggg aac ggt tca cat act atc cgg gat ctc aag tat	726
Met Trp Ser Glu Gly Asn Gly Ser His Thr Ile Arg Asp Leu Lys Tyr	
140 145 150	
acc att gaa aac cca agg cac ttt gtg gac tca cac cac cag aag cct	774
Thr Ile Glu Asn Pro Arg His Phe Val Asp Ser His His Gln Lys Pro	
155 160 165	
gtt aat gct atc atc gag cat gtg cgg gac ggc agt gtg gtc agg gcc	822
Val Asn Ala Ile Ile Glu His Val Arg Asp Gly Ser Val Val Arg Ala	
170 175 180 185	
ctg ctc ctc cca gat tac tac ctg gtt aca gtc atg ctg tca ggc atc	870
Leu Leu Leu Pro Asp Tyr Tyr Leu Val Thr Val Met Leu Ser Gly Ile	
190 195 200	
aag tgc cca act ttt cga cgg gaa gca gat ggc agt gaa act cca gag	918
Lys Cys Pro Thr Phe Arg Arg Glu Ala Asp Gly Ser Glu Thr Pro Glu	
205 210 215	
cct ttt gct gca gaa gcc aaa ttt ttc act gag tcg cga ctg ctt cag	966
Pro Phe Ala Ala Glu Ala Lys Phe Phe Thr Glu Ser Arg Leu Leu Gln	
220 225 230	
aga gat gtt cag atc att ctg gag agc tgc cac aac cag aac att gtg	1014
Arg Asp Val Gln Ile Ile Leu Glu Ser Cys His Asn Gln Asn Ile Val	
235 240 245	
ggt acc atc ctt cat cca aat ggc aac atc aca gag ctc ctc ctg aag	1062
Gly Thr Ile Leu His Pro Asn Gly Asn Ile Thr Glu Leu Leu Leu Lys	

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gaa ggt ttc gca cgc tgt gtg gac tgg tcg att gca gtt tac acc cgg	Glu Gly Phe Ala Arg Cys Val Asp Trp Ser Ile Ala Val Tyr Thr Arg															1110
	270					275					280					
ggc gca gaa aag ctg agg gcg gca gag agg ttt gcc aaa gag cgc agg	Gly Ala Glu Lys Leu Arg Ala Ala Glu Arg Phe Ala Lys Glu Arg Arg															1158
	285					290					295					
ctg aga ata tgg aga gac tat gtg gct ccc aca gct aat ttg gac caa	Leu Arg Ile Trp Arg Asp Tyr Val Ala Pro Thr Ala Asn Leu Asp Gln															1206
	300					305					310					
aag gac aag cag ttt gtt gcc aag gtg atg cag gtt ctg aat gct gat	Lys Asp Lys Gln Phe Val Ala Lys Val Met Gln Val Leu Asn Ala Asp															1254
	315					320					325					
gcc att gtt gtg aag ctg aac tca ggc gat tac aag acg att cac ctg	Ala Ile Val Val Lys Leu Asn Ser Gly Asp Tyr Lys Thr Ile His Leu															1302
	330					335					340					345
tcc agc atc cga cca ccg agg ctg gag ggg gag aac acc cag gat aag	Ser Ser Ile Arg Pro Pro Arg Leu Glu Gly Glu Asn Thr Gln Asp Lys															1350
	350					355					360					
aac aag aaa ctg cgt ccc ctg tat gac att cct tac atg ttt gag gcc	Asn Lys Lys Leu Arg Pro Leu Tyr Asp Ile Pro Tyr Met Phe Glu Ala															1398
	365					370					375					
cgg gaa ttt ctt cga aaa aag ctt att ggg aag aag gtc aat gtg acg	Arg Glu Phe Leu Arg Lys Lys Leu Ile Gly Lys Lys Val Asn Val Thr															1446
	380					385					390					
gtg gac tac att aga cca gcc agc cca gcc aca gag aca gtg cct gcc	Val Asp Tyr Ile Arg Pro Ala Ser Pro Ala Thr Glu Thr Val Pro Ala															1494
	395					400					405					
ttt tca gag cgt acc tgt gcc act gtc acc att gga gga ata aac att	Phe Ser Glu Arg Thr Cys Ala Thr Val Thr Ile Gly Gly Ile Asn Ile															1542
	410					415					420					425
gct gag gct ctt gtc agc aaa ggt cta gcc aca gtg atc aga tac cgg	Ala Glu Ala Leu Val Ser Lys Gly Leu Ala Thr Val Ile Arg Tyr Arg															1590
	430					435					440					
cag gat gat gac cag aga tca tca cac tac gat gaa ctg ctt gct gca	Gln Asp Asp Asp Gln Arg Ser Ser His Tyr Asp Glu Leu Leu Ala Ala															1638
	445					450					455					
gag gcc aga gct att aag aat ggc aaa gga ttg cat agc aag aag gaa	Glu Ala Arg Ala Ile Lys Asn Gly Lys Gly Leu His Ser Lys Lys Glu															1686
	460					465					470					

gtg cct atc cac cgt gtt gca gat ata tct ggg gat acc caa aaa gca	1734
Val Pro Ile His Arg Val Ala Asp Ile Ser Gly Asp Thr Gln Lys Ala	
475 480 485	
aag cag ttc ctg cct ttt ctt cag cgg gca ggt cgt tct gaa gct gtg	1782
Lys Gln Phe Leu Pro Phe Leu Gln Arg Ala Gly Arg Ser Glu Ala Val	
490 495 500 505	
gtg gaa tac gtc ttc agt ggt tct cgt ctc aaa ctc tat ttg cca aag	1830
Val Glu Tyr Val Phe Ser Gly Ser Arg Leu Lys Leu Tyr Leu Pro Lys	
510 515 520	
gaa act tgc ctt atc acc ttc ttg ctt gca ggc att gaa tgc ccc aga	1878
Glu Thr Cys Leu Ile Thr Phe Leu Leu Ala Gly Ile Glu Cys Pro Arg	
525 530 535	
gga gcc cga aac ctc cca ggc ttg gtg cag gaa gga gag ccc ttc agc	1926
Gly Ala Arg Asn Leu Pro Gly Leu Val Gln Glu Gly Glu Pro Phe Ser	
540 545 550	
gag gaa gct aca ctt ttc acc aag gaa ctg gtg ctg cag cga gag gtg	1974
Glu Glu Ala Thr Leu Phe Thr Lys Glu Leu Val Leu Gln Arg Glu Val	
555 560 565	
gag gtg gag gtg gag agc atg gac aag gcc ggc aac ttt atc ggc tgg	2022
Glu Val Glu Val Glu Ser Met Asp Lys Ala Gly Asn Phe Ile Gly Trp	
570 575 580 585	
ctg cac atc gac ggt gcc aac ctg tcc gtc ctg ctg gtg gag cac gcg	2070
Leu His Ile Asp Gly Ala Asn Leu Ser Val Leu Leu Val Glu His Ala	
590 595 600	
ctc tcc aag gtc cac ttc acc gcc gaa cgc agc tcc tac tac aag tcc	2118
Leu Ser Lys Val His Phe Thr Ala Glu Arg Ser Ser Tyr Tyr Lys Ser	
605 610 615	
ctg ctg tct gcc gag gag gcc gca aag cag aag aaa gag aag gtc tgg	2166
Leu Leu Ser Ala Glu Glu Ala Ala Lys Gln Lys Lys Glu Lys Val Trp	
620 625 630	
gcc cac tat gag gag cag ccc gtg gag gag gtg atg cca gtg ctg gag	2214
Ala His Tyr Glu Glu Gln Pro Val Glu Glu Val Met Pro Val Leu Glu	
635 640 645	
gag aag gag cga tct gct agc tac aag ccc gtg ttt gtg acc gag atc	2262
Glu Lys Glu Arg Ser Ala Ser Tyr Lys Pro Val Phe Val Thr Glu Ile	
650 655 660 665	
act gat gac ctg cac ttc tac gtg cag gat gtg gag acc ggc acc cag	2310
Thr Asp Asp Leu His Phe Tyr Val Gln Asp Val Glu Thr Gly Thr Gln	
670 675 680	
ttc cag aag ctg atg gag aac atg cgc aat gac att gcc agt cac ccc	2358
Phe Gln Lys Leu Met Glu Asn Met Arg Asn Asp Ile Ala Ser His Pro	

685						690						695						
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Pro	Val	Glu	Gly	Ser	Tyr	Ala	Pro	Arg	Arg	Gly	Glu	Phe	Cys	Ile	Ala			
700			705			710												
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Lys	Phe	Val	Asp	Gly	Glu	Trp	Tyr	Arg	Ala	Arg	Val	Glu	Lys	Val	Glu			
715			720			725												
tct	cct	gcc	aaa	ata	cat	gtc	ttc	tac	att	gac	tac	ggc	aac	aga	gag	2502		
Ser	Pro	Ala	Lys	Ile	His	Val	Phe	Tyr	Ile	Asp	Tyr	Gly	Asn	Arg	Glu			
730			735			740			745									
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750			755			760												
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Arg	Val	Leu	Pro	Ala	Gln	Ala	Thr	Glu	Tyr	Ala	Phe	Ala	Phe	Ile	Gln			
765			770			775												
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Val	Pro	Gln	Asp	Asp	Asp	Ala	Arg	Thr	Asp	Ala	Val	Asp	Ser	Val	Val			
780			785			790												
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Arg	Asp	Ile	Gln	Asn	Thr	Gln	Cys	Leu	Leu	Asn	Val	Glu	His	Leu	Ser			
795			800			805												
gcc	ggc	tgc	ccc	cat	gtc	acc	ctg	cag	ttt	gca	gat	tcc	aag	ggc	gat	2742		
Ala	Gly	Cys	Pro	His	Val	Thr	Leu	Gln	Phe	Ala	Asp	Ser	Lys	Gly	Asp			
810			815			820			825									
gtg	ggg	ctg	ggc	ttg	gtg	aag	gaa	ggg	ctg	gtc	atg	gtg	gag	gtg	cgc	2790		
Val	Gly	Leu	Gly	Leu	Val	Lys	Glu	Gly	Leu	Val	Met	Val	Glu	Val	Arg			
830			835			840												
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Lys	Glu	Lys	Gln	Phe	Gln	Lys	Val	Ile	Thr	Glu	Tyr	Leu	Asn	Ala	Gln			
845			850			855												
gag	tca	gcc	aag	agc	gcc	agg	ctg	aac	ctg	tgg	cgc	tat	gga	gac	ttt	2886		
Glu	Ser	Ala	Lys	Ser	Ala	Arg	Leu	Asn	Leu	Trp	Arg	Tyr	Gly	Asp	Phe			
860			865			870												
cga	gct	gat	gat	gca	gac	gaa	ttt	ggc	tac	agc	cgc	taaggagggg				2932		
Arg	Ala	Asp	Asp	Ala	Asp	Glu	Phe	Gly	Tyr	Ser	Arg							
875			880			885												
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 <212> PRT  
 <213> Homo sapiens

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 Ala Ala Leu Cys Glu Gly Ala Val Leu Pro Arg Ser Ala Lys Glu Leu  
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 Arg Cys Gln Cys Ile Lys Thr Tyr Ser Lys Pro Phe His Pro Lys Phe  
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 Ile Lys Glu Leu Arg Val Ile Glu Ser Gly Pro His Cys Ala Asn Thr  
 50 55 60  
 Glu Ile Met  
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 <212> PRT  
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 Thr Ala Asn Pro Cys Cys Ser His Pro Cys Gln Asn Arg Gly Val Cys  
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 Met Ser Val Gly Phe Asp Gln Tyr Lys Cys Asp Cys Thr Arg Thr Gly

35					40					45						
Phe	Tyr	Gly	Glu	Asn	Cys	Ser	Thr	Pro	Glu	Phe	Leu	Thr	Arg	Ile	Lys	
50					55					60						
Leu	Phe	Leu	Lys	Pro	Thr	Pro	Asn	Thr	Val	His	Tyr	Ile	Leu	Thr	His	
65					70					75					80	
Phe	Lys	Gly	Phe	Trp	Asn	Val	Val	Asn	Asn	Ile	Pro	Phe	Leu	Arg	Asn	
85					90					95						
Ala	Ile	Met	Ser	Tyr	Val	Leu	Thr	Ser	Arg	Ser	His	Leu	Ile	Asp	Ser	
100					105					110						
Pro	Pro	Thr	Tyr	Asn	Ala	Asp	Tyr	Gly	Tyr	Lys	Ser	Trp	Glu	Ala	Phe	
115					120					125						
Ser	Asn	Leu	Ser	Tyr	Tyr	Thr	Arg	Ala	Leu	Pro	Pro	Val	Pro	Asp	Asp	
130					135					140						
Cys	Pro	Thr	Pro	Leu	Gly	Val	Lys	Gly	Lys	Lys	Gln	Leu	Pro	Asp	Ser	
145					150					155					160	
Asn	Glu	Ile	Val	Glu	Lys	Leu	Leu	Leu	Arg	Arg	Lys	Phe	Ile	Pro	Asp	
165					170					175						
Pro	Gln	Gly	Ser	Asn	Met	Met	Phe	Ala	Phe	Phe	Ala	Gln	His	Phe	Thr	
180					185					190						
His	Gln	Phe	Phe	Lys	Thr	Asp	His	Lys	Arg	Gly	Pro	Ala	Phe	Thr	Asn	
195					200					205						
Gly	Leu	Gly	His	Gly	Val	Asp	Leu	Asn	His	Ile	Tyr	Gly	Glu	Thr	Leu	
210					215					220						
Ala	Arg	Gln	Arg	Lys	Leu	Arg	Leu	Phe	Lys	Asp	Gly	Lys	Met	Lys	Tyr	
225					230					235					240	
Gln	Ile	Ile	Asp	Gly	Glu	Met	Tyr	Pro	Pro	Thr	Val	Lys	Asp	Thr	Gln	
245					250					255						
Ala	Glu	Met	Ile	Tyr	Pro	Pro	Gln	Val	Pro	Glu	His	Leu	Arg	Phe	Ala	
260					265					270						
Val	Gly	Gln	Glu	Val	Phe	Gly	Leu	Val	Pro	Gly	Leu	Met	Met	Tyr	Ala	
275					280					285						
Thr	Ile	Trp	Leu	Arg	Glu	His	Asn	Arg	Val	Cys	Asp	Val	Leu	Lys	Gln	
290					295					300						
Glu	His	Pro	Glu	Trp	Gly	Asp	Glu	Gln	Leu	Phe	Gln	Thr	Ser	Arg	Leu	
305					310					315					320	
Ile	Leu	Ile	Gly	Glu	Thr	Ile	Lys	Ile	Val	Ile	Glu	Asp	Tyr	Val	Gln	

				325				330				335				
His	Leu	Ser	Gly	Tyr	His	Phe	Lys	Leu	Lys	Phe	Asp	Pro	Glu	Leu	Leu	
			340				345						350			
Phe	Asn	Lys	Gln	Phe	Gln	Tyr	Gln	Asn	Arg	Ile	Ala	Ala	Glu	Phe	Asn	
			355				360						365			
Thr	Leu	Tyr	His	Trp	His	Pro	Leu	Leu	Pro	Asp	Thr	Phe	Gln	Ile	His	
			370				375						380			
Asp	Gln	Lys	Tyr	Asn	Tyr	Gln	Gln	Phe	Ile	Tyr	Asn	Asn	Ser	Ile	Leu	
385						390									400	
Leu	Glu	His	Gly	Ile	Thr	Gln	Phe	Val	Glu	Ser	Phe	Thr	Arg	Gln	Ile	
			405						410						415	
Ala	Gly	Arg	Val	Ala	Gly	Gly	Arg	Asn	Val	Pro	Pro	Ala	Val	Gln	Lys	
			420						425						430	
Val	Ser	Gln	Ala	Ser	Ile	Asp	Gln	Ser	Arg	Gln	Met	Lys	Tyr	Gln	Ser	
			435						440						445	
Phe	Asn	Glu	Tyr	Arg	Lys	Arg	Phe	Met	Leu	Lys	Pro	Tyr	Glu	Ser	Phe	
450						455						460				
Glu	Glu	Leu	Thr	Gly	Glu	Lys	Glu	Met	Ser	Ala	Glu	Leu	Glu	Ala	Leu	
465						470						475			480	
Tyr	Gly	Asp	Ile	Asp	Ala	Val	Glu	Leu	Tyr	Pro	Ala	Leu	Leu	Val	Glu	
			485						490						495	
Lys	Pro	Arg	Pro	Asp	Ala	Ile	Phe	Gly	Glu	Thr	Met	Val	Glu	Val	Gly	
			500						505						510	
Ala	Pro	Phe	Ser	Leu	Lys	Gly	Leu	Met	Gly	Asn	Val	Ile	Cys	Ser	Pro	
			515						520						525	
Ala	Tyr	Trp	Lys	Pro	Ser	Thr	Phe	Gly	Gly	Glu	Val	Gly	Phe	Gln	Ile	
530						535						540				
Ile	Asn	Thr	Ala	Ser	Ile	Gln	Ser	Leu	Ile	Cys	Asn	Asn	Val	Lys	Gly	
545						550						555			560	
Cys	Pro	Phe	Thr	Ser	Phe	Ser	Val	Pro	Asp	Pro	Glu	Leu	Ile	Lys	Thr	
			565						570						575	
Val	Thr	Ile	Asn	Ala	Ser	Ser	Ser	Arg	Ser	Gly	Leu	Asp	Asp	Ile	Asn	
			580						585						590	
Pro	Thr	Val	Leu	Leu	Lys	Glu	Arg	Ser	Thr	Glu	Leu					
			595						600							

&lt;210&gt; 25

&lt;211&gt; 360

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 25

Met	Glu	Asp	Phe	Asn	Met	Glu	Ser	Asp	Ser	Phe	Glu	Asp	Phe	Trp	Lys
1				5					10					15	

Gly	Glu	Asp	Leu	Ser	Asn	Tyr	Ser	Tyr	Ser	Ser	Thr	Leu	Pro	Pro	Phe
			20					25					30		

Leu	Leu	Asp	Ala	Ala	Pro	Cys	Glu	Pro	Glu	Ser	Leu	Glu	Ile	Asn	Lys
		35					40					45			

Tyr	Phe	Val	Val	Ile	Ile	Tyr	Ala	Leu	Val	Phe	Leu	Leu	Ser	Leu	Leu
	50					55					60				

Gly	Asn	Ser	Leu	Val	Met	Leu	Val	Ile	Leu	Tyr	Ser	Arg	Val	Gly	Arg
65					70					75					80

Ser	Val	Thr	Asp	Val	Tyr	Leu	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Leu	Leu
				85					90					95	

Phe	Ala	Leu	Thr	Leu	Pro	Ile	Trp	Ala	Ala	Ser	Lys	Val	Asn	Gly	Trp
			100					105					110		

Ile	Phe	Gly	Thr	Phe	Leu	Cys	Lys	Val	Val	Ser	Leu	Leu	Lys	Glu	Val
		115					120					125			

Asn	Phe	Tyr	Ser	Gly	Ile	Leu	Leu	Leu	Ala	Cys	Ile	Ser	Val	Asp	Arg
	130					135					140				

Tyr	Leu	Ala	Ile	Val	His	Ala	Thr	Arg	Thr	Leu	Thr	Gln	Lys	Arg	Tyr
145					150					155					160

Leu	Val	Lys	Phe	Ile	Cys	Leu	Ser	Ile	Trp	Gly	Leu	Ser	Leu	Leu	Leu
			165						170					175	

Ala	Leu	Pro	Val	Leu	Leu	Phe	Arg	Arg	Thr	Val	Tyr	Ser	Ser	Asn	Val
			180					185						190	

Ser	Pro	Ala	Cys	Tyr	Glu	Asp	Met	Gly	Asn	Asn	Thr	Ala	Asn	Trp	Arg
		195					200					205			

Met	Leu	Leu	Arg	Ile	Leu	Pro	Gln	Ser	Phe	Gly	Phe	Ile	Val	Pro	Leu
	210					215					220				

Leu	Ile	Met	Leu	Phe	Cys	Tyr	Gly	Phe	Thr	Leu	Arg	Thr	Leu	Phe	Lys
225					230					235					240

Ala	His	Met	Gly	Gln	Lys	His	Arg	Ala	Met	Arg	Val	Ile	Phe	Ala	Val
				245					250					255	



Val Leu Ile Phe Leu Leu Cys Trp Leu Pro Tyr Asn Leu Val Leu Leu  
                   260                                  265                                  270  
 Ala Asp Thr Leu Met Arg Thr Gln Val Ile Gln Glu Thr Cys Glu Arg  
                   275                                  280                                  285  
 Arg Asn His Ile Asp Arg Ala Leu Asp Ala Thr Glu Ile Leu Gly Ile  
                   290                                  295                                  300  
 Leu His Ser Cys Leu Asn Pro Leu Ile Tyr Ala Phe Ile Gly Gln Lys  
 305                                  310                                  315                                  320  
 Phe Arg His Gly Leu Leu Lys Ile Leu Ala Ile His Gly Leu Ile Ser  
                   325                                  330                                  335  
 Lys Asp Ser Leu Pro Lys Asp Ser Arg Pro Ser Phe Val Gly Ser Ser  
                   340                                  345                                  350  
 Ser Gly His Thr Ser Thr Thr Leu  
                   355                                  360

<210> 26  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Met Pro Leu Gly Leu Leu Trp Leu Gly Leu Ala Leu Leu Gly Ala Leu  
   1                                  5                                  10                                  15  
 His Ala Gln Ala Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro  
                   20                                  25                                  30  
 Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln  
                   35                                  40                                  45  
 Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn Ala Ile Leu Arg Glu  
                   50                                  55                                  60  
 Asp Lys Asp Pro Gln Lys Met Tyr Ala Thr Ile Tyr Glu Leu Lys Glu  
   65                                  70                                  75                                  80  
 Asp Lys Ser Tyr Asn Val Thr Ser Val Leu Phe Arg Lys Lys Lys Cys  
                   85                                  90                                  95  
 Asp Tyr Trp Ile Arg Thr Phe Val Pro Gly Cys Gln Pro Gly Glu Phe  
                   100                                  105                                  110  
 Thr Leu Gly Asn Ile Lys Ser Tyr Pro Gly Leu Thr Ser Tyr Leu Val  
                   115                                  120                                  125

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys  
 130 135 140

Lys Val Ser Gln Asn Arg Glu Tyr Phe Lys Ile Thr Leu Tyr Gly Arg  
 145 150 155 160

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser  
 165 170 175

Lys Tyr Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile  
 180 185 190

Asp Gln Cys Ile Asp Gly  
 195

<210> 27  
 <211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Met Lys Leu Leu Thr Gly Leu Val Phe Cys Ser Leu Val Leu Gly Val  
 1 5 10 15

Ser Ser Arg Ser Phe Phe Ser Phe Leu Gly Glu Ala Phe Asp Gly Ala  
 20 25 30

Arg Asp Met Trp Arg Ala Tyr Ser Asp Met Arg Glu Ala Asn Tyr Ile  
 35 40 45

Gly Ser Asp Lys Tyr Phe His Ala Arg Gly Asn Tyr Asp Ala Ala Lys  
 50 55 60

Arg Gly Pro Gly Gly Val Trp Ala Ala Glu Ala Ile Ser Asp Ala Arg  
 65 70 75 80

Glu Asn Ile Gln Arg Phe Phe Gly His Gly Ala Glu Asp Ser Leu Ala  
 85 90 95

Asp Gln Ala Ala Asn Glu Trp Gly Arg Ser Gly Lys Asp Pro Asn His  
 100 105 110

Phe Arg Pro Ala Gly Leu Pro Glu Lys Tyr  
 115 120

<210> 28  
 <211> 554  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 28

Met	Thr	Ala	Pro	Gly	Ala	Ala	Gly	Arg	Cys	Pro	Pro	Thr	Thr	Trp	Leu
1				5					10					15	
Gly	Ser	Leu	Leu	Leu	Leu	Val	Cys	Leu	Leu	Ala	Ser	Arg	Ser	Ile	Thr
		20						25					30		
Glu	Glu	Val	Ser	Glu	Tyr	Cys	Ser	His	Met	Ile	Gly	Ser	Gly	His	Leu
		35					40					45			
Gln	Ser	Leu	Gln	Arg	Leu	Ile	Asp	Ser	Gln	Met	Glu	Thr	Ser	Cys	Gln
	50					55					60				
Ile	Thr	Phe	Glu	Phe	Val	Asp	Gln	Glu	Gln	Leu	Lys	Asp	Pro	Val	Cys
65					70					75					80
Tyr	Leu	Lys	Lys	Ala	Phe	Leu	Leu	Val	Gln	Asp	Ile	Met	Glu	Asp	Thr
				85					90					95	
Met	Arg	Phe	Arg	Asp	Asn	Thr	Ala	Asn	Pro	Ile	Ala	Ile	Val	Gln	Leu
			100					105					110		
Gln	Glu	Leu	Ser	Leu	Arg	Leu	Lys	Ser	Cys	Phe	Thr	Lys	Asp	Tyr	Glu
		115					120					125			
Glu	His	Asp	Lys	Ala	Cys	Val	Arg	Thr	Phe	Tyr	Glu	Thr	Pro	Leu	Gln
	130					135					140				
Leu	Leu	Glu	Lys	Val	Lys	Asn	Val	Phe	Asn	Glu	Thr	Lys	Asn	Leu	Leu
145					150					155					160
Asp	Lys	Asp	Trp	Asn	Ile	Phe	Ser	Lys	Asn	Cys	Asn	Asn	Ser	Phe	Ala
				165					170					175	
Glu	Cys	Ser	Ser	Gln	Asp	Val	Val	Thr	Lys	Pro	Asp	Cys	Asn	Cys	Leu
			180					185					190		
Tyr	Pro	Lys	Ala	Ile	Pro	Ser	Ser	Asp	Pro	Ala	Ser	Val	Ser	Pro	His
		195					200						205		
Gln	Pro	Leu	Ala	Pro	Ser	Met	Ala	Pro	Val	Ala	Gly	Leu	Thr	Trp	Glu
	210					215					220				
Asp	Ser	Glu	Gly	Thr	Glu	Gly	Ser	Ser	Leu	Leu	Pro	Gly	Glu	Gln	Pro
225					230					235					240
Leu	His	Thr	Val	Asp	Pro	Gly	Ser	Ala	Lys	Gln	Arg	Pro	Pro	Arg	Ser
				245					250					255	
Thr	Cys	Gln	Ser	Phe	Glu	Pro	Pro	Glu	Thr	Pro	Val	Val	Lys	Asp	Ser
			260					265					270		
Thr	Ile	Gly	Gly	Ser	Pro	Gln	Pro	Arg	Pro	Ser	Val	Gly	Ala	Phe	Asn
		275					280					285			

Pro Gly Met Glu Asp Ile Leu Asp Ser Ala Met Gly Thr Asn Trp Val  
 290 295 300  
 Pro Glu Glu Ala Ser Gly Glu Ala Ser Glu Ile Pro Val Pro Gln Gly  
 305 310 315 320  
 Thr Glu Leu Ser Pro Ser Arg Pro Gly Gly Gly Ser Met Gln Thr Glu  
 325 330 335  
 Pro Ala Arg Pro Ser Asn Phe Leu Ser Ala Ser Ser Pro Leu Pro Ala  
 340 345 350  
 Ser Ala Lys Gly Gln Gln Pro Ala Asp Val Thr Ala Thr Ala Leu Pro  
 355 360 365  
 Arg Val Gly Pro Val Met Pro Thr Gly Gln Asp Trp Asn His Thr Pro  
 370 375 380  
 Gln Lys Thr Asp His Pro Ser Ala Leu Leu Arg Asp Pro Pro Glu Pro  
 385 390 395 400  
 Gly Ser Pro Arg Ile Ser Ser Leu Arg Pro Gln Ala Leu Ser Asn Pro  
 405 410 415  
 Ser Thr Leu Ser Ala Gln Pro Gln Leu Ser Arg Ser His Ser Ser Gly  
 420 425 430  
 Ser Val Leu Pro Leu Gly Glu Leu Glu Gly Arg Arg Ser Thr Arg Asp  
 435 440 445  
 Arg Thr Ser Pro Ala Glu Pro Glu Ala Ala Pro Ala Ser Glu Gly Ala  
 450 455 460  
 Ala Arg Pro Leu Pro Arg Phe Asn Ser Val Pro Leu Thr Asp Thr Gly  
 465 470 475 480  
 His Glu Arg Gln Ser Glu Gly Ser Ser Ser Pro Gln Leu Gln Glu Ser  
 485 490 495  
 Val Phe His Leu Leu Val Pro Ser Val Ile Leu Val Leu Leu Ala Val  
 500 505 510  
 Gly Gly Leu Leu Phe Tyr Arg Trp Arg Arg Arg Ser His Gln Glu Pro  
 515 520 525  
 Gln Arg Ala Asp Ser Pro Leu Glu Gln Pro Glu Gly Ser Pro Leu Thr  
 530 535 540  
 Gln Asp Asp Arg Gln Val Glu Leu Pro Val  
 545 550

<210> 29  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Met Ala Arg Ala Ala Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu  
   1                  5                  10                  15  
 Arg Val Ala Leu Leu Leu Leu Leu Val Ala Ala Gly Arg Arg Ala  
           20                  25                  30  
 Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr  
           35                  40                  45  
 Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser Val Asn Val Lys Ser  
       50                  55                  60  
 Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn  
       65                  70                  75                  80  
 Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys Lys Ile  
           85                  90                  95  
 Ile Glu Lys Met Leu Asn Ser Asp Lys Ser Asn  
           100                  105

<210> 30  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Ala His Ala Thr Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu  
   1                  5                  10                  15  
 Arg Val Ala Leu Leu Leu Leu Leu Val Gly Ser Arg Arg Ala Ala  
           20                  25                  30  
 Gly Ala Ser Val Val Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr Leu  
           35                  40                  45  
 Gln Gly Ile His Leu Lys Asn Ile Gln Ser Val Asn Val Arg Ser Pro  
       50                  55                  60  
 Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn Gly  
       65                  70                  75                  80  
 Lys Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Gln Lys Ile Ile  
           85                  90                  95  
 Glu Lys Ile Leu Asn Lys Gly Ser Thr Asn

100

105

<210> 31  
 <211> 300  
 <212> PRT  
 <213> Homo sapiens

<400> 31  
 Met Arg Ile Ala Val Ile Cys Phe Cys Leu Leu Gly Ile Thr Cys Ala  
 1 5 10 15  
 Ile Pro Val Lys Gln Ala Asp Ser Gly Ser Ser Glu Glu Lys Gln Leu  
 20 25 30  
 Tyr Asn Lys Tyr Pro Asp Ala Val Ala Thr Trp Leu Asn Pro Asp Pro  
 35 40 45  
 Ser Gln Lys Gln Asn Leu Leu Ala Pro Gln Thr Leu Pro Ser Lys Ser  
 50 55 60  
 Asn Glu Ser His Asp His Met Asp Asp Met Asp Asp Glu Asp Asp Asp  
 65 70 75 80  
 Asp His Val Asp Ser Gln Asp Ser Ile Asp Ser Asn Asp Ser Asp Asp  
 85 90 95  
 Val Asp Asp Thr Asp Asp Ser His Gln Ser Asp Glu Ser His His Ser  
 100 105 110  
 Asp Glu Ser Asp Glu Leu Val Thr Asp Phe Pro Thr Asp Leu Pro Ala  
 115 120 125  
 Thr Glu Val Phe Thr Pro Val Val Pro Thr Val Asp Thr Tyr Asp Gly  
 130 135 140  
 Arg Gly Asp Ser Val Val Tyr Gly Leu Arg Ser Lys Ser Lys Lys Phe  
 145 150 155 160  
 Arg Arg Pro Asp Ile Gln Tyr Pro Asp Ala Thr Asp Glu Asp Ile Thr  
 165 170 175  
 Ser His Met Glu Ser Glu Glu Leu Asn Gly Ala Tyr Lys Ala Ile Pro  
 180 185 190  
 Val Ala Gln Asp Leu Asn Ala Pro Ser Asp Trp Asp Ser Arg Gly Lys  
 195 200 205  
 Asp Ser Tyr Glu Thr Ser Gln Leu Asp Asp Gln Ser Ala Glu Thr His  
 210 215 220  
 Ser His Lys Gln Ser Arg Leu Tyr Lys Arg Lys Ala Asn Asp Glu Ser  
 225 230 235 240

Asn	Glu	His	Ser	Asp	Val	Ile	Asp	Ser	Gln	Glu	Leu	Ser	Lys	Val	Ser	
				245					250					255		
Arg	Glu	Phe	His	Ser	His	Glu	Phe	His	Ser	His	Glu	Asp	Met	Leu	Val	
				260					265					270		
Val	Asp	Pro	Lys	Ser	Lys	Glu	Glu	Asp	Lys	His	Leu	Lys	Phe	Arg	Ile	
				275					280					285		
Ser	His	Glu	Leu	Asp	Ser	Ala	Ser	Ser	Glu	Val	Asn					
				290					295					300		

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<210> 32
<211> 295
<212> PRT
<213> Homo sapiens
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<400> 32															
Met 1	Glu	His	Gln	Leu 5	Leu	Cys	Cys	Glu	Val 10	Glu	Thr	Ile	Arg	Arg 15	Ala
Tyr	Pro	Asp	Ala 20	Asn	Leu	Leu	Asn	Asp 25	Arg	Val	Leu	Arg	Ala 30	Met	Leu
Lys	Ala	Glu 35	Glu	Thr	Cys	Ala	Pro 40	Ser	Val	Ser	Tyr	Phe 45	Lys	Cys	Val
Gln	Lys 50	Glu	Val	Leu	Pro	Ser 55	Met	Arg	Lys	Ile	Val 60	Ala	Thr	Trp	Met
Leu 65	Glu	Val	Cys	Glu	Glu 70	Gln	Lys	Cys	Glu	Glu 75	Glu	Val	Phe	Pro	Leu 80
Ala	Met	Asn	Tyr	Leu 85	Asp	Arg	Phe	Leu	Ser 90	Leu	Glu	Pro	Val	Lys 95	Lys
Ser	Arg	Leu	Gln 100	Leu	Leu	Gly	Ala	Thr 105	Cys	Met	Phe	Val	Ala 110	Ser	Lys
Met	Lys 115	Glu	Thr	Ile	Pro	Leu	Thr 120	Ala	Glu	Lys	Leu	Cys 125	Ile	Tyr	Thr
Asp	Gly 130	Ser	Ile	Arg	Pro	Glu 135	Glu	Leu	Leu	Gln	Met 140	Glu	Leu	Leu	Leu
Val 145	Asn	Lys	Leu	Lys	Trp 150	Asn	Leu	Ala	Ala	Met 155	Thr	Pro	His	Asp	Phe 160
Ile	Glu	His	Phe 165	Leu	Ser	Lys	Met	Pro	Glu 170	Ala	Glu	Glu	Asn	Lys 175	Gln

Ile Ile Arg Lys His Ala Gln Thr Phe Val Ala Ser Cys Ala Thr Asp  
                   180                  185                  190  
 Val Lys Phe Ile Ser Asn Pro Pro Ser Met Val Ala Ala Gly Ser Val  
                   195                  200                  205  
 Val Ala Ala Val Gln Gly Leu Asn Leu Arg Ser Pro Asn Asn Phe Leu  
                   210                  215                  220  
 Ser Tyr Tyr Arg Leu Thr Arg Phe Leu Ser Arg Val Ile Lys Cys Asp  
 225                  230                  235                  240  
 Pro Asp Cys Leu Arg Ala Cys Gln Glu Gln Ile Glu Ala Leu Leu Glu  
                   245                  250                  255  
 Ser Ser Leu Arg Gln Ala Gln Gln Asn Met Asp Pro Lys Ala Ala Glu  
                   260                  265                  270  
 Glu Glu Glu Glu Glu Glu Glu Glu Val Asp Leu Ala Cys Thr Pro Thr  
                   275                  280                  285  
 Asp Val Arg Asp Val Asp Ile  
                   290                  295

<210> 33  
 <211> 439  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Pro Leu Asn Val Ser Phe Thr Asn Arg Asn Tyr Asp Leu Asp Tyr  
   1                  5                  10                  15  
 Asp Ser Val Gln Pro Tyr Phe Tyr Cys Asp Glu Glu Glu Asn Phe Tyr  
                   20                  25                  30  
 Gln Gln Gln Gln Gln Ser Glu Leu Gln Pro Pro Ala Pro Ser Glu Asp  
                   35                  40                  45  
 Ile Trp Lys Lys Phe Glu Leu Leu Pro Thr Pro Pro Leu Ser Pro Ser  
                   50                  55                  60  
 Arg Arg Ser Gly Leu Cys Ser Pro Ser Tyr Val Ala Val Thr Pro Phe  
   65                  70                  75                  80  
 Ser Leu Arg Gly Asp Asn Asp Gly Gly Gly Gly Ser Phe Ser Thr Ala  
                   85                  90                  95  
 Asp Gln Leu Glu Met Val Thr Glu Leu Leu Gly Gly Asp Met Val Asn  
                   100                  105                  110  
 Gln Ser Phe Ile Cys Asp Pro Asp Asp Glu Thr Phe Ile Lys Asn Ile



115					120					125					
Ile	Ile	Gln	Asp	Cys	Met	Trp	Ser	Gly	Phe	Ser	Ala	Ala	Ala	Lys	Leu
	130					135					140				
Val	Ser	Glu	Lys	Leu	Ala	Ser	Tyr	Gln	Ala	Ala	Arg	Lys	Asp	Ser	Gly
145					150					155					160
Ser	Pro	Asn	Pro	Ala	Arg	Gly	His	Ser	Val	Cys	Ser	Thr	Ser	Ser	Leu
				165					170					175	
Tyr	Leu	Gln	Asp	Leu	Ser	Ala	Ala	Ala	Ser	Glu	Cys	Ile	Asp	Pro	Ser
			180					185					190		
Val	Val	Phe	Pro	Tyr	Pro	Leu	Asn	Asp	Ser	Ser	Ser	Pro	Lys	Ser	Cys
		195					200					205			
Ala	Ser	Gln	Asp	Ser	Ser	Ala	Phe	Ser	Pro	Ser	Ser	Asp	Ser	Leu	Leu
	210					215					220				
Ser	Ser	Thr	Glu	Ser	Ser	Pro	Gln	Gly	Ser	Pro	Glu	Pro	Leu	Val	Leu
225					230					235					240
His	Glu	Glu	Thr	Pro	Pro	Thr	Thr	Ser	Ser	Asp	Ser	Glu	Glu	Glu	Gln
				245					250					255	
Glu	Asp	Glu	Glu	Glu	Ile	Asp	Val	Val	Ser	Val	Glu	Lys	Arg	Gln	Ala
			260					265					270		
Pro	Gly	Lys	Arg	Ser	Glu	Ser	Gly	Ser	Pro	Ser	Ala	Gly	Gly	His	Ser
		275					280					285			
Lys	Pro	Pro	His	Ser	Pro	Leu	Val	Leu	Lys	Arg	Cys	His	Val	Ser	Thr
	290					295					300				
His	Gln	His	Asn	Tyr	Ala	Ala	Pro	Pro	Ser	Thr	Arg	Lys	Asp	Tyr	Pro
305					310					315					320
Ala	Ala	Lys	Arg	Val	Lys	Leu	Asp	Ser	Val	Arg	Val	Leu	Arg	Gln	Ile
				325					330					335	
Ser	Asn	Asn	Arg	Lys	Cys	Thr	Ser	Pro	Arg	Ser	Ser	Asp	Thr	Glu	Glu
			340					345					350		
Asn	Val	Lys	Arg	Arg	Thr	His	Asn	Val	Leu	Glu	Arg	Gln	Arg	Arg	Asn
		355					360					365			
Glu	Leu	Lys	Arg	Ser	Phe	Phe	Ala	Leu	Arg	Asp	Gln	Ile	Pro	Glu	Leu
	370					375					380				
Glu	Asn	Asn	Glu	Lys	Ala	Pro	Lys	Val	Val	Ile	Leu	Lys	Lys	Ala	Thr
385					390					395					400
Ala	Tyr	Ile	Leu	Ser	Val	Gln	Ala	Glu	Glu	Gln	Lys	Leu	Ile	Ser	Glu

405                      410                      415  
 Glu Asp Leu Leu Arg Lys Arg Arg Glu Gln Leu Lys His Lys Leu Glu  
                       420                      425                      430  
 Gln Leu Arg Asn Ser Cys Ala  
                       435

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<210> 34
<211> 164
<212> PRT
<213> Homo sapiens
```

[illegible]

```
<210> 35
<211> 105
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 35

Met Met Met Gly Ser Ala Arg Val Ala Glu Leu Leu Leu Leu His Gly  
 1 5 10 15

Ala Glu Pro Asn Cys Ala Asp Pro Ala Thr Leu Thr Arg Pro Val His  
 20 25 30

Asp Ala Ala Arg Glu Gly Phe Leu Asp Thr Leu Val Val Leu His Arg  
 35 40 45

Ala Gly Ala Arg Leu Asp Val Arg Asp Ala Trp Gly Arg Leu Pro Val  
 50 55 60

Asp Leu Ala Glu Glu Leu Gly His Arg Asp Val Ala Arg Tyr Leu Arg  
 65 70 75 80

Ala Ala Ala Gly Gly Thr Arg Gly Ser Asn His Ala Arg Ile Asp Ala  
 85 90 95

Ala Glu Gly Pro Ser Asp Ile Pro Asp  
 100 105

&lt;210&gt; 36

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 36

Met Gly Arg Gly Arg Cys Val Gly Pro Ser Leu Gln Leu Arg Gly Gln  
 1 5 10 15

Glu Trp Arg Cys Ser Pro Leu Val Pro Lys Gly Gly Ala Ala Ala Ala  
 20 25 30

Glu Leu Gly Pro Gly Gly Gly Glu Asn Met Val Arg Arg Phe Leu Val  
 35 40 45

Thr Leu Arg Ile Arg Arg Ala Cys Gly Pro Pro Arg Val Arg Val Phe  
 50 55 60

Val Val His Ile Pro Arg Leu Thr Gly Glu Trp Ala Ala Pro Gly Ala  
 65 70 75 80

Pro Ala Ala Val Ala Leu Val Leu Met Leu Leu Arg Ser Gln Arg Leu  
 85 90 95

Gly Gln Gln Pro Leu Pro Arg Arg Pro Gly His Asp Asp Gly Gln Arg  
 100 105 110

Pro Ser Gly Gly Ala Ala Ala Ala Pro Arg Arg Gly Ala Gln Leu Arg  
 115 120 125

Arg Pro Arg His Ser His Pro Thr Arg Ala Arg Arg Cys Pro Gly Gly  
 130 135 140

Leu Pro Gly His Ala Gly Gly Ala Ala Pro Gly Arg Gly Ala Ala Gly  
 145 150 155 160

Arg Ala Arg Cys Leu Gly Pro Ser Ala Arg Gly Pro Gly  
 165 170

<210> 37  
 <211> 468  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
 Met Val Asp Thr Glu Ser Pro Leu Cys Pro Leu Ser Pro Leu Glu Ala  
 1 5 10 15

Gly Asp Leu Glu Ser Pro Leu Ser Glu Glu Phe Leu Gln Glu Met Gly  
 20 25 30

Asn Ile Gln Glu Ile Ser Gln Ser Ile Gly Glu Asp Ser Ser Gly Ser  
 35 40 45

Phe Gly Phe Thr Glu Tyr Gln Tyr Leu Gly Ser Cys Pro Gly Ser Asp  
 50 55 60

Gly Ser Val Ile Thr Asp Thr Leu Ser Pro Ala Ser Ser Pro Ser Ser  
 65 70 75 80

Val Thr Tyr Pro Val Val Pro Gly Ser Val Asp Glu Ser Pro Ser Gly  
 85 90 95

Ala Leu Asn Ile Glu Cys Arg Ile Cys Gly Asp Lys Ala Ser Gly Tyr  
 100 105 110

His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg  
 115 120 125

Thr Ile Arg Leu Lys Leu Val Tyr Asp Lys Cys Asp Arg Ser Cys Lys  
 130 135 140

Ile Gln Lys Lys Asn Arg Asn Lys Cys Gln Tyr Cys Arg Phe His Lys  
 145 150 155 160

Cys Leu Ser Val Gly Met Ser His Asn Ala Ile Arg Phe Gly Arg Met  
 165 170 175

Pro Arg Ser Glu Lys Ala Lys Leu Lys Ala Glu Ile Leu Thr Cys Glu  
 180 185 190

His Asp Ile Glu Asp Ser Glu Thr Ala Asp Leu Lys Ser Leu Ala Lys  
 195 200 205  
 Arg Ile Tyr Glu Ala Tyr Leu Lys Asn Phe Asn Met Asn Lys Val Lys  
 210 215 220  
 Ala Arg Val Ile Leu Ser Gly Lys Ala Ser Asn Asn Pro Pro Phe Val  
 225 230 235 240  
 Ile His Asp Met Glu Thr Leu Cys Met Ala Glu Lys Thr Leu Val Ala  
 245 250 255  
 Lys Leu Val Ala Asn Gly Ile Gln Asn Lys Glu Ala Glu Val Arg Ile  
 260 265 270  
 Phe His Cys Cys Gln Cys Thr Ser Val Glu Thr Val Thr Glu Leu Thr  
 275 280 285  
 Glu Phe Ala Lys Ala Ile Pro Gly Phe Ala Asn Leu Asp Leu Asn Asp  
 290 295 300  
 Gln Val Thr Leu Leu Lys Tyr Gly Val Tyr Glu Ala Ile Phe Ala Met  
 305 310 315 320  
 Leu Ser Ser Val Met Asn Lys Asp Gly Met Leu Val Ala Tyr Gly Asn  
 325 330 335  
 Gly Phe Ile Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Cys  
 340 345 350  
 Asp Ile Met Glu Pro Lys Phe Asp Phe Ala Met Lys Phe Asn Ala Leu  
 355 360 365  
 Glu Leu Asp Asp Ser Asp Ile Ser Leu Phe Val Ala Ala Ile Ile Cys  
 370 375 380  
 Cys Gly Asp Arg Pro Gly Leu Leu Asn Val Gly His Ile Glu Lys Met  
 385 390 395 400  
 Gln Glu Gly Ile Val His Val Leu Arg Leu His Leu Gln Ser Asn His  
 405 410 415  
 Pro Asp Asp Ile Phe Leu Phe Pro Lys Leu Leu Gln Lys Met Ala Asp  
 420 425 430  
 Leu Arg Gln Leu Val Thr Glu His Ala Gln Leu Val Gln Ile Ile Lys  
 435 440 445  
 Lys Thr Glu Ser Asp Ala Ala Leu His Pro Leu Leu Gln Glu Ile Tyr  
 450 455 460  
 Arg Asp Met Tyr  
 465

&lt;210&gt; 38

&lt;211&gt; 505

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 38

```

Met Gly Glu Thr Leu Gly Asp Ser Pro Ile Asp Pro Glu Ser Asp Ser
 1           5           10           15

Phe Thr Asp Thr Leu Ser Ala Asn Ile Ser Gln Glu Met Thr Met Val
          20           25           30

Asp Thr Glu Met Pro Phe Trp Pro Thr Asn Phe Gly Ile Ser Ser Val
          35           40           45

Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile Lys Pro
          50           55           60

Phe Thr Thr Val Asp Phe Ser Ser Ile Ser Thr Pro His Tyr Glu Asp
          65           70           75           80

Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr Asp
          85           90           95

Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser
          100          105          110

Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu
          115          120          125

Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp
          130          135          140

Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys
          145          150          155          160

Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys
          165          170          175

Asp Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr
          180          185          190

Cys Arg Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile
          195          200          205

Arg Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu
          210          215          220

Ile Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg
          225          230          235          240

Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu

```

245										250					255				
Thr	Lys	Ala	Lys	Ala	Arg	Ala	Ile	Leu	Thr	Gly	Lys	Thr	Thr	Asp	Lys				
			260					265					270						
Ser	Pro	Phe	Val	Ile	Tyr	Asp	Met	Asn	Ser	Leu	Met	Met	Gly	Glu	Asp				
		275					280					285							
Lys	Ile	Lys	Phe	Lys	His	Ile	Thr	Pro	Leu	Gln	Glu	Gln	Ser	Lys	Glu				
	290					295					300								
Val	Ala	Ile	Arg	Ile	Phe	Gln	Gly	Cys	Gln	Phe	Arg	Ser	Val	Glu	Ala				
305					310					315					320				
Val	Gln	Glu	Ile	Thr	Glu	Tyr	Ala	Lys	Ser	Ile	Pro	Gly	Phe	Val	Asn				
				325					330					335					
Leu	Asp	Leu	Asn	Asp	Gln	Val	Thr	Leu	Leu	Lys	Tyr	Gly	Val	His	Glu				
			340					345					350						
Ile	Ile	Tyr	Thr	Met	Leu	Ala	Ser	Leu	Met	Asn	Lys	Asp	Gly	Val	Leu				
		355					360					365							
Ile	Ser	Glu	Gly	Gln	Gly	Phe	Met	Thr	Arg	Glu	Phe	Leu	Lys	Ser	Leu				
	370					375					380								
Arg	Lys	Pro	Phe	Gly	Asp	Phe	Met	Glu	Pro	Lys	Phe	Glu	Phe	Ala	Val				
385					390					395					400				
Lys	Phe	Asn	Ala	Leu	Glu	Leu	Asp	Asp	Ser	Asp	Leu	Ala	Ile	Phe	Ile				
			405						410				415						
Ala	Val	Ile	Ile	Leu	Ser	Gly	Asp	Arg	Pro	Gly	Leu	Leu	Asn	Val	Lys				
			420					425					430						
Pro	Ile	Glu	Asp	Ile	Gln	Asp	Asn	Leu	Leu	Gln	Ala	Leu	Glu	Leu	Gln				
		435					440					445							
Leu	Lys	Leu	Asn	His	Pro	Glu	Ser	Ser	Gln	Leu	Phe	Ala	Lys	Leu	Leu				
	450					455					460								
Gln	Lys	Met	Thr	Asp	Leu	Arg	Gln	Ile	Val	Thr	Glu	His	Val	Gln	Leu				
465					470					475					480				
Leu	Gln	Val	Ile	Lys	Lys	Thr	Glu	Thr	Asp	Met	Ser	Leu	His	Pro	Leu				
				485					490					495					
Leu	Gln	Glu	Ile	Tyr	Lys	Asp	Leu	Tyr											
			500					505											

&lt;210&gt; 39

&lt;211&gt; 441

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 39

```

Met Glu Gln Pro Gln Glu Glu Ala Pro Glu Val Arg Glu Glu Glu Glu
 1              5              10              15

Lys Glu Glu Val Ala Glu Ala Glu Gly Ala Pro Glu Leu Asn Gly Gly
      20              25              30

Pro Gln His Ala Leu Pro Ser Ser Ser Tyr Thr Asp Leu Ser Arg Ser
      35              40              45

Ser Ser Pro Pro Ser Leu Leu Asp Gln Leu Gln Met Gly Cys Asp Gly
 50              55              60

Ala Ser Cys Gly Ser Leu Asn Met Glu Cys Arg Val Cys Gly Asp Lys
 65              70              75              80

Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly
      85              90              95

Phe Phe Arg Arg Thr Ile Arg Met Lys Leu Glu Tyr Glu Lys Cys Glu
      100              105              110

Arg Ser Cys Lys Ile Gln Lys Lys Asn Arg Asn Lys Cys Gln Tyr Cys
 115              120              125

Arg Phe Gln Lys Cys Leu Ala Leu Gly Met Ser His Asn Ala Ile Arg
 130              135              140

Phe Gly Arg Met Pro Glu Ala Glu Lys Arg Lys Leu Val Ala Gly Leu
 145              150              155              160

Thr Ala Asn Glu Gly Ser Gln Tyr Asn Pro Gln Val Ala Asp Leu Lys
      165              170              175

Ala Phe Ser Lys His Ile Tyr Asn Ala Tyr Leu Lys Asn Phe Asn Met
      180              185              190

Thr Lys Lys Lys Ala Arg Ser Ile Leu Thr Gly Lys Ala Ser His Thr
      195              200              205

Ala Pro Phe Val Ile His Asp Ile Glu Thr Leu Trp Gln Ala Glu Lys
 210              215              220

Gly Leu Val Trp Lys Gln Leu Val Asn Gly Leu Pro Pro Tyr Lys Glu
 225              230              235              240

Ile Ser Val His Val Phe Tyr Arg Cys Gln Cys Thr Thr Val Glu Thr
      245              250              255

Val Arg Glu Leu Thr Glu Phe Ala Lys Ser Ile Pro Ser Phe Ser Ser
      260              265              270

```



Leu Phe Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu  
 275 280 285  
 Ala Ile Phe Ala Met Leu Ala Ser Ile Val Asn Lys Asp Gly Leu Leu  
 290 295 300  
 Val Ala Asn Gly Ser Gly Phe Val Thr Arg Glu Phe Leu Arg Ser Leu  
 305 310 315 320  
 Arg Lys Pro Phe Ser Asp Ile Ile Glu Pro Lys Phe Glu Phe Ala Val  
 325 330 335  
 Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Leu Phe Ile  
 340 345 350  
 Ala Ala Ile Ile Leu Cys Gly Asp Arg Pro Gly Leu Met Asn Val Pro  
 355 360 365  
 Arg Val Glu Ala Ile Gln Asp Thr Ile Leu Arg Ala Leu Glu Phe His  
 370 375 380  
 Leu Gln Ala Asn His Pro Asp Ala Gln Tyr Leu Phe Pro Lys Leu Leu  
 385 390 395 400  
 Gln Lys Met Ala Asp Leu Arg Gln Leu Val Thr Glu His Ala Gln Met  
 405 410 415  
 Met Gln Arg Ile Lys Lys Thr Glu Thr Glu Thr Ser Leu His Pro Leu  
 420 425 430  
 Leu Gln Glu Ile Tyr Lys Asp Met Tyr  
 435 440

<210> 40  
 <211> 742  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Met Asp Lys Phe Trp Trp His Ala Ala Trp Gly Leu Cys Leu Val Pro  
 1 5 10 15  
 Leu Ser Leu Ala Gln Ile Asp Leu Asn Ile Thr Cys Arg Phe Ala Gly  
 20 25 30  
 Val Phe His Val Glu Lys Asn Gly Arg Tyr Ser Ile Ser Arg Thr Glu  
 35 40 45  
 Ala Ala Asp Leu Cys Lys Ala Phe Asn Ser Thr Leu Pro Thr Met Ala  
 50 55 60

Gln Met Glu Lys Ala Leu Ser Ile Gly Phe Glu Thr Cys Arg Tyr Gly  
 65 70 75 80  
 Phe Ile Glu Gly His Val Val Ile Pro Arg Ile His Pro Asn Ser Ile  
 85 90 95  
 Cys Ala Ala Asn Asn Thr Gly Val Tyr Ile Leu Thr Ser Asn Thr Ser  
 100 105 110  
 Gln Tyr Asp Thr Tyr Cys Phe Asn Ala Ser Ala Pro Pro Glu Glu Asp  
 115 120 125  
 Cys Thr Ser Val Thr Asp Leu Pro Asn Ala Phe Asp Gly Pro Ile Thr  
 130 135 140  
 Ile Thr Ile Val Asn Arg Asp Gly Thr Arg Tyr Val Gln Lys Gly Glu  
 145 150 155 160  
 Tyr Arg Thr Asn Pro Glu Asp Ile Tyr Pro Ser Asn Pro Thr Asp Asp  
 165 170 175  
 Asp Val Ser Ser Gly Ser Ser Ser Glu Arg Ser Ser Thr Ser Gly Gly  
 180 185 190  
 Tyr Ile Phe Tyr Thr Phe Ser Thr Val His Pro Ile Pro Asp Glu Asp  
 195 200 205  
 Ser Pro Trp Ile Thr Asp Ser Thr Asp Arg Ile Pro Ala Thr Thr Leu  
 210 215 220  
 Met Ser Thr Ser Ala Thr Ala Thr Glu Thr Ala Thr Lys Arg Gln Glu  
 225 230 235 240  
 Thr Trp Asp Trp Phe Ser Trp Leu Phe Leu Pro Ser Glu Ser Lys Asn  
 245 250 255  
 His Leu His Thr Thr Thr Gln Met Ala Gly Thr Ser Ser Asn Thr Ile  
 260 265 270  
 Ser Ala Gly Trp Glu Pro Asn Glu Glu Asn Glu Asp Glu Arg Asp Arg  
 275 280 285  
 His Leu Ser Phe Ser Gly Ser Gly Ile Asp Asp Asp Glu Asp Phe Ile  
 290 295 300  
 Ser Ser Thr Ile Ser Thr Thr Pro Arg Ala Phe Asp His Thr Lys Gln  
 305 310 315 320  
 Asn Gln Asp Trp Thr Gln Trp Asn Pro Ser His Ser Asn Pro Glu Val  
 325 330 335  
 Leu Leu Gln Thr Thr Thr Arg Met Thr Asp Val Asp Arg Asn Gly Thr  
 340 345 350

Thr Ala Tyr Glu Gly Asn Trp Asn Pro Glu Ala His Pro Pro Leu Ile  
 355 360 365  
 His His Glu His His Glu Glu Glu Glu Thr Pro His Ser Thr Ser Thr  
 370 375 380  
 Ile Gln Ala Thr Pro Ser Ser Thr Thr Glu Glu Thr Ala Thr Gln Lys  
 385 390 395 400  
 Glu Gln Trp Phe Gly Asn Arg Trp His Glu Gly Tyr Arg Gln Thr Pro  
 405 410 415  
 Lys Glu Asp Ser His Ser Thr Thr Gly Thr Ala Ala Ala Ser Ala His  
 420 425 430  
 Thr Ser His Pro Met Gln Gly Arg Thr Thr Pro Ser Pro Glu Asp Ser  
 435 440 445  
 Ser Trp Thr Asp Phe Phe Asn Pro Ile Ser His Pro Met Gly Arg Gly  
 450 455 460  
 His Gln Ala Gly Arg Arg Met Asp Met Asp Ser Ser His Ser Ile Thr  
 465 470 475 480  
 Leu Gln Pro Thr Ala Asn Pro Asn Thr Gly Leu Val Glu Asp Leu Asp  
 485 490 495  
 Arg Thr Gly Pro Leu Ser Met Thr Thr Gln Gln Ser Asn Ser Gln Ser  
 500 505 510  
 Phe Ser Thr Ser His Glu Gly Leu Glu Glu Asp Lys Asp His Pro Thr  
 515 520 525  
 Thr Ser Thr Leu Thr Ser Ser Asn Arg Asn Asp Val Thr Gly Gly Arg  
 530 535 540  
 Arg Asp Pro Asn His Ser Glu Gly Ser Thr Thr Leu Leu Glu Gly Tyr  
 545 550 555 560  
 Thr Ser His Tyr Pro His Thr Lys Glu Ser Arg Thr Phe Ile Pro Val  
 565 570 575  
 Thr Ser Ala Lys Thr Gly Ser Phe Gly Val Thr Ala Val Thr Val Gly  
 580 585 590  
 Asp Ser Asn Ser Asn Val Asn Arg Ser Leu Ser Gly Asp Gln Asp Thr  
 595 600 605  
 Phe His Pro Ser Gly Gly Ser His Thr Thr His Gly Ser Glu Ser Asp  
 610 615 620  
 Gly His Ser His Gly Ser Gln Glu Gly Gly Ala Asn Thr Thr Ser Gly  
 625 630 635 640

Pro Ile Arg Thr Pro Gln Ile Pro Glu Trp Leu Ile Ile Leu Ala Ser  
                                 645                                650                                655  
 Leu Leu Ala Leu Ala Leu Ile Leu Ala Val Cys Ile Ala Val Asn Ser  
                                 660                                665                                670  
 Arg Arg Arg Cys Gly Gln Lys Lys Lys Leu Val Ile Asn Ser Gly Asn  
                                 675                                680                                685  
 Gly Ala Val Glu Asp Arg Lys Pro Ser Gly Leu Asn Gly Glu Ala Ser  
                                 690                                695                                700  
 Lys Ser Gln Glu Met Val His Leu Val Asn Lys Glu Ser Ser Glu Thr  
                                 705                                710                                715                                720  
 Pro Asp Gln Phe Met Thr Ala Asp Glu Thr Arg Asn Leu Gln Asn Val  
                                 725                                730                                735  
 Asp Met Lys Ile Gly Val  
                                 740

<210> 41  
 <211> 489  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Met Leu Met Arg Leu Val Leu Thr Val Arg Ser Asn Leu Ile Pro Ser  
   1                                5                                10                                15  
 Pro Pro Thr Tyr Asn Ser Ala His Asp Tyr Ile Ser Trp Glu Ser Phe  
                                 20                                25                                30  
 Ser Asn Val Ser Tyr Tyr Thr Arg Ile Leu Pro Ser Val Pro Lys Asp  
                                 35                                40                                45  
 Cys Pro Thr Pro Met Gly Thr Lys Gly Lys Lys Gln Leu Pro Asp Ala  
   50                                55                                60  
 Gln Leu Leu Ala Arg Arg Phe Leu Leu Arg Arg Lys Phe Ile Pro Asp  
   65                                70                                75                                80  
 Pro Gln Gly Thr Asn Leu Met Phe Ala Phe Phe Ala Gln His Phe Thr  
                                 85                                90                                95  
 His Gln Phe Phe Lys Thr Ser Gly Lys Met Gly Pro Gly Phe Thr Lys  
                                 100                                105                                110  
 Ala Leu Gly His Gly Val Asp Leu Gly His Ile Tyr Gly Asp Asn Leu  
                                 115                                120                                125  
 Glu Arg Gln Tyr Gln Leu Arg Leu Phe Lys Asp Gly Lys Leu Lys Tyr

130	135	140
Gln Val Leu Asp Gly Glu Met Tyr Pro Pro Ser Val Glu Glu Ala Pro 145 150 155 160		
Val Leu Met His Tyr Pro Arg Gly Ile Pro Pro Gln Ser Gln Met Ala 165 170 175		
Val Gly Gln Glu Val Phe Gly Leu Leu Pro Gly Leu Met Leu Tyr Ala 180 185 190		
Thr Leu Trp Leu Arg Glu His Asn Arg Val Cys Asp Leu Leu Lys Ala 195 200 205		
Glu His Pro Thr Trp Gly Asp Glu Gln Leu Phe Gln Thr Thr Arg Leu 210 215 220		
Ile Leu Ile Gly Glu Thr Ile Lys Ile Val Ile Glu Glu Tyr Val Gln 225 230 235 240		
Gln Leu Ser Gly Tyr Phe Leu Gln Leu Lys Phe Asp Pro Glu Leu Leu 245 250 255		
Phe Gly Val Gln Phe Gln Tyr Arg Asn Arg Ile Ala Met Glu Phe Asn 260 265 270		
His Leu Tyr His Trp His Pro Leu Met Pro Asp Ser Phe Lys Val Gly 275 280 285		
Ser Gln Glu Tyr Ser Tyr Glu Gln Phe Leu Phe Asn Thr Ser Met Leu 290 295 300		
Val Asp Tyr Gly Val Glu Ala Leu Val Asp Ala Phe Ser Arg Gln Ile 305 310 315 320		
Ala Gly Arg Ile Gly Gly Gly Arg Asn Met Asp His His Ile Leu His 325 330 335		
Val Ala Val Asp Val Ile Arg Glu Ser Arg Glu Met Arg Leu Gln Pro 340 345 350		
Phe Asn Glu Tyr Arg Lys Arg Phe Gly Met Lys Pro Tyr Thr Ser Phe 355 360 365		
Gln Glu Leu Val Gly Glu Lys Glu Met Ala Ala Glu Leu Glu Glu Leu 370 375 380		
Tyr Gly Asp Ile Asp Ala Leu Glu Phe Tyr Pro Gly Leu Leu Leu Glu 385 390 395 400		
Lys Cys His Pro Asn Ser Ile Phe Gly Glu Ser Met Ile Glu Ile Gly 405 410 415		
Ala Pro Phe Ser Leu Lys Gly Leu Leu Gly Asn Pro Ile Cys Ser Pro		

420							425					430					
Glu	Tyr	Trp	Lys	Pro	Ser	Thr	Phe	Gly	Gly	Glu	Val	Gly	Phe	Asn	Ile		
435							440					445					
Val	Lys	Thr	Ala	Thr	Leu	Lys	Lys	Leu	Val	Cys	Leu	Asn	Thr	Lys	Thr		
450							455					460					
Cys	Pro	Tyr	Val	Ser	Phe	Arg	Val	Pro	Asp	Ala	Ser	Gln	Asp	Asp	Gly		
465							470					475					480
Pro	Ala	Val	Glu	Arg	Pro	Ser	Thr	Glu									
485																	

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<210> 42
<211> 96
<212> PRT
<213> Homo sapiens
```

```

<400> 42
Met Ser Glu Ser Ser Ser Lys Ser Ser Gln Pro Leu Ala Ser Lys Gln
  1             5             10             15

Glu Lys Asp Gly Thr Glu Lys Arg Gly Arg Gly Arg Pro Arg Lys Gln
          20             25             30

Pro Pro Lys Glu Pro Ser Glu Val Pro Thr Pro Lys Arg Pro Arg Gly
          35             40             45

Arg Pro Lys Gly Ser Lys Asn Lys Gly Ala Ala Lys Thr Arg Lys Thr
          50             55             60

Thr Thr Thr Pro Gly Arg Lys Pro Arg Gly Arg Pro Lys Lys Leu Glu
  65             70             75             80

Lys Glu Glu Glu Glu Gly Ile Ser Gln Glu Ser Ser Glu Glu Glu Gln
          85             90             95

```

```
<210> 43
<211> 79
<212> PRT
<213> Homo sapiens
```

```

<400> 43
Met Ala His Lys Gln Ile Tyr Tyr Ser Asp Lys Tyr Phe Asp Glu His
  1                      5                      10                      15
Tyr Glu Tyr Arg His Val Met Leu Pro Arg Glu Leu Ser Lys Gln Val
      20                      25                      30

```

Pro Lys Thr His Leu Met Ser Glu Glu Glu Trp Arg Arg Leu Gly Val  
                   35                  40                  45

Gln Gln Ser Leu Gly Trp Val His Tyr Met Ile His Glu Pro Glu Pro  
           50                  55                  60

His Ile Leu Leu Phe Arg Arg Pro Leu Pro Lys Asp Gln Gln Lys  
   65                  70                  75

<210> 44  
 <211> 885  
 <212> PRT  
 <213> Homo sapiens

<400> 44  
 Met Val Leu Ser Gly Cys Ala Ile Ile Val Arg Gly Gln Pro Arg Gly  
   1                  5                  10                  15

Gly Pro Pro Pro Glu Arg Gln Ile Asn Leu Ser Asn Ile Arg Ala Gly  
                   20                  25                  30

Asn Leu Ala Arg Arg Ala Ala Ala Thr Gln Pro Asp Ala Lys Asp Thr  
           35                  40                  45

Pro Asp Glu Pro Trp Ala Phe Pro Ala Arg Glu Phe Leu Arg Lys Lys  
   50                  55                  60

Leu Ile Gly Lys Glu Val Cys Phe Thr Ile Glu Asn Lys Thr Pro Gln  
   65                  70                  75                  80

Gly Arg Glu Tyr Gly Met Ile Tyr Leu Gly Lys Asp Thr Asn Gly Glu  
                   85                  90                  95

Asn Ile Ala Glu Ser Leu Val Ala Glu Gly Leu Ala Thr Arg Arg Glu  
           100                  105                  110

Gly Met Arg Ala Asn Asn Pro Glu Gln Asn Arg Leu Ser Glu Cys Glu  
           115                  120                  125

Glu Gln Ala Lys Ala Ala Lys Lys Gly Met Trp Ser Glu Gly Asn Gly  
   130                  135                  140

Ser His Thr Ile Arg Asp Leu Lys Tyr Thr Ile Glu Asn Pro Arg His  
  145                  150                  155                  160

Phe Val Asp Ser His His Gln Lys Pro Val Asn Ala Ile Ile Glu His  
           165                  170                  175

Val Arg Asp Gly Ser Val Val Arg Ala Leu Leu Leu Pro Asp Tyr Tyr  
           180                  185                  190

Leu Val Thr Val Met Leu Ser Gly Ile Lys Cys Pro Thr Phe Arg Arg

195	200	205
Glu Ala Asp Gly Ser Glu Thr Pro Glu Pro Phe Ala Ala Glu Ala Lys 210 215 220		
Phe Phe Thr Glu Ser Arg Leu Leu Gln Arg Asp Val Gln Ile Ile Leu 225 230 235 240		
Glu Ser Cys His Asn Gln Asn Ile Val Gly Thr Ile Leu His Pro Asn 245 250 255		
Gly Asn Ile Thr Glu Leu Leu Leu Lys Glu Gly Phe Ala Arg Cys Val 260 265 270		
Asp Trp Ser Ile Ala Val Tyr Thr Arg Gly Ala Glu Lys Leu Arg Ala 275 280 285		
Ala Glu Arg Phe Ala Lys Glu Arg Arg Leu Arg Ile Trp Arg Asp Tyr 290 295 300		
Val Ala Pro Thr Ala Asn Leu Asp Gln Lys Asp Lys Gln Phe Val Ala 305 310 315 320		
Lys Val Met Gln Val Leu Asn Ala Asp Ala Ile Val Val Lys Leu Asn 325 330 335		
Ser Gly Asp Tyr Lys Thr Ile His Leu Ser Ser Ile Arg Pro Pro Arg 340 345 350		
Leu Glu Gly Glu Asn Thr Gln Asp Lys Asn Lys Lys Leu Arg Pro Leu 355 360 365		
Tyr Asp Ile Pro Tyr Met Phe Glu Ala Arg Glu Phe Leu Arg Lys Lys 370 375 380		
Leu Ile Gly Lys Lys Val Asn Val Thr Val Asp Tyr Ile Arg Pro Ala 385 390 395 400		
Ser Pro Ala Thr Glu Thr Val Pro Ala Phe Ser Glu Arg Thr Cys Ala 405 410 415		
Thr Val Thr Ile Gly Gly Ile Asn Ile Ala Glu Ala Leu Val Ser Lys 420 425 430		
Gly Leu Ala Thr Val Ile Arg Tyr Arg Gln Asp Asp Asp Gln Arg Ser 435 440 445		
Ser His Tyr Asp Glu Leu Leu Ala Ala Glu Ala Arg Ala Ile Lys Asn 450 455 460		
Gly Lys Gly Leu His Ser Lys Lys Glu Val Pro Ile His Arg Val Ala 465 470 475 480		
Asp Ile Ser Gly Asp Thr Gln Lys Ala Lys Gln Phe Leu Pro Phe Leu		



				485					490					495			
Gln	Arg	Ala	Gly	Arg	Ser	Glu	Ala	Val	Val	Glu	Tyr	Val	Phe	Ser	Gly		
			500					505					510				
Ser	Arg	Leu	Lys	Leu	Tyr	Leu	Pro	Lys	Glu	Thr	Cys	Leu	Ile	Thr	Phe		
		515					520					525					
Leu	Leu	Ala	Gly	Ile	Glu	Cys	Pro	Arg	Gly	Ala	Arg	Asn	Leu	Pro	Gly		
	530					535					540						
Leu	Val	Gln	Glu	Gly	Glu	Pro	Phe	Ser	Glu	Glu	Ala	Thr	Leu	Phe	Thr		
545					550					555					560		
Lys	Glu	Leu	Val	Leu	Gln	Arg	Glu	Val	Glu	Val	Glu	Val	Glu	Ser	Met		
				565					570					575			
Asp	Lys	Ala	Gly	Asn	Phe	Ile	Gly	Trp	Leu	His	Ile	Asp	Gly	Ala	Asn		
			580					585					590				
Leu	Ser	Val	Leu	Leu	Val	Glu	His	Ala	Leu	Ser	Lys	Val	His	Phe	Thr		
		595					600					605					
Ala	Glu	Arg	Ser	Ser	Tyr	Tyr	Lys	Ser	Leu	Leu	Ser	Ala	Glu	Glu	Ala		
	610					615						620					
Ala	Lys	Gln	Lys	Lys	Glu	Lys	Val	Trp	Ala	His	Tyr	Glu	Glu	Gln	Pro		
625					630					635					640		
Val	Glu	Glu	Val	Met	Pro	Val	Leu	Glu	Glu	Lys	Glu	Arg	Ser	Ala	Ser		
				645					650					655			
Tyr	Lys	Pro	Val	Phe	Val	Thr	Glu	Ile	Thr	Asp	Asp	Leu	His	Phe	Tyr		
			660					665					670				
Val	Gln	Asp	Val	Glu	Thr	Gly	Thr	Gln	Phe	Gln	Lys	Leu	Met	Glu	Asn		
		675					680					685					
Met	Arg	Asn	Asp	Ile	Ala	Ser	His	Pro	Pro	Val	Glu	Gly	Ser	Tyr	Ala		
	690					695					700						
Pro	Arg	Arg	Gly	Glu	Phe	Cys	Ile	Ala	Lys	Phe	Val	Asp	Gly	Glu	Trp		
705					710					715					720		
Tyr	Arg	Ala	Arg	Val	Glu	Lys	Val	Glu	Ser	Pro	Ala	Lys	Ile	His	Val		
				725					730					735			
Phe	Tyr	Ile	Asp	Tyr	Gly	Asn	Arg	Glu	Val	Leu	Pro	Ser	Thr	Arg	Leu		
			740					745					750				
Gly	Thr	Leu	Ser	Pro	Ala	Phe	Ser	Thr	Arg	Val	Leu	Pro	Ala	Gln	Ala		
		755					760					765					
Thr	Glu	Tyr	Ala	Phe	Ala	Phe	Ile	Gln	Val	Pro	Gln	Asp	Asp	Asp	Ala		

770	775	780
Arg Thr Asp Ala Val	Asp Ser Val Val Arg	Asp Ile Gln Asn Thr Gln
785	790	795 800
Cys Leu Leu Asn Val	Glu His Leu Ser Ala Gly Cys Pro His Val Thr	
	805	810 815
Leu Gln Phe Ala Asp Ser Lys Gly	Asp Val Gly Leu Gly Leu Val Lys	
	820	825 830
Glu Gly Leu Val Met Val Glu Val Arg Lys Glu Lys Gln Phe Gln Lys		
	835	840 845
Val Ile Thr Glu Tyr Leu Asn Ala Gln Glu Ser Ala Lys Ser Ala Arg		
	850	855 860
Leu Asn Leu Trp Arg Tyr Gly Asp Phe Arg Ala Asp Asp Ala Asp Glu		
	865	870 875 880
Phe Gly Tyr Ser Arg		
	885	

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 <213> Artificial Sequence

<220>  
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 primer

<400> 45  
 agatattgca cgggagaata tacaaa

26

<210> 46  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 primer

<400> 46  
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27

<210> 47

<211> 23  
 <212> DNA  
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<220>  
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<400> 47  
 tctgcagagt tggaagcact cta

23

<210> 48  
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 <212> DNA  
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<220>  
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<400> 48  
 gccgaggctt ttctaccaga a

21

<210> 49  
 <211> 20  
 <212> DNA  
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<220>  
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<400> 49  
 catggcttga tcagcaagga

20

<210> 50  
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 <212> DNA  
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<400> 50  
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21

<210> 51  
 <211> 23  
 <212> DNA  
 <213> Homo sapiens

<400> 51  
 caaggagctg acttcggaac taa 23

<210> 52  
 <211> 22  
 <212> DNA  
 <213> Homo sapiens

<400> 52  
 agggaagacg atgtggtttt ca 22

<210> 53  
 <211> 22  
 <212> DNA  
 <213> Homo sapiens

<400> 53  
 gggacatgtg gagagcctac tc 22

<210> 54  
 <211> 21  
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<400> 54  
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<210> 55  
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<400> 55  
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<210> 56  
<211> 21  
<212> DNA  
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primer

<400> 56  
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<210> 57  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
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primer

<400> 57  
acatgccagc cactgtgata ga 22

<210> 58  
<211> 21  
<212> DNA  
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primer

<400> 58  
ccctgccttc acaatgatct c 21

<210> 59  
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<212> DNA  
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<220>  
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primer

<400> 59  
ggaattcacc tcaagaacat cca 23

<210> 60  
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<212> DNA  
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<220>  
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primer

<400> 60  
agtgtggcta tgacttcggt ttg 23

<210> 61  
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<212> DNA  
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primer

<400> 61  
cagccacaag cagtccagat ta 22

<210> 62  
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primer

<400> 62  
cctgactatc aatcacatcg gaat 24

<210> 63  
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primer

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<210> 64  
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<210> 65  
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<400> 65  
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<210> 66  
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<400> 66  
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<210> 67  
 <211> 22  
 <212> DNA  
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<220>  
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## primer

<400> 67  
gcagaccagc atgacagatt tc 22

<210> 68  
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<220>  
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primer

<400> 68  
gcggattagg gcttcctctt 20

<210> 69  
<211> 21  
<212> DNA  
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primer

<400> 69  
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<210> 70  
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<212> DNA  
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primer

<400> 70  
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<210> 71  
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<400> 71  
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<210> 72  
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<212> DNA  
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<400> 72  
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<210> 73  
<211> 23  
<212> DNA  
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<400> 73  
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<210> 74  
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<400> 74  
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<210> 75  
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<400> 75

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23

<210> 76

<211> 19

<212> DNA

<213> Artificial Sequence

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<400> 76

agccttggcc ctcggatat

19

<210> 77

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

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<400> 77

cactgagttc gccaaagagca t

21

<210> 78

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

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<400> 78

cacgccatac ttgagaaggg taa

23

<210> 79

<211> 23

<212> DNA

<213> Artificial Sequence

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<400> 79

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23

<210> 80

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<212> DNA

<213> Artificial Sequence

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<400> 80

gctggcctct ccgttgag

18

<210> 81

<211> 22

<212> DNA

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<400> 81

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22

<210> 82

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

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<400> 82

tgccagtggg agagatgggt ga

22

<210> 83

<211> 22

<212> DNA  
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<400> 83  
 acaactccag gaaggaaacc aa

22

<210> 84  
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<400> 84  
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19

<210> 85  
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<400> 85  
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23

<210> 86  
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<400> 86  
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24

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primer

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22

<210> 88  
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primer

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23